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Research Guide to Decision Support System National Cost Extracts 1998-2001

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Chapter 1. Overview

The Decision Support System (DSS) is used by the U. S. Department of Veterans Affairs (VA) to manage its health care system and determine the cost of patient care. National Data Extracts (NDEs) have been created to facilitate access to the cost information. These extracts report costs of every inpatient and outpatient encounter provided by VA.

The goal of this handbook is to describe the contents of the DSS NDEs and to provide instructions on how they may be used. Unlike a typical data dictionary or technical manual, this handbook provides task-oriented directions for using this DSS database. It focuses on four major topics:

1) Accessing NDE data files,
2) The types of cost data that are included,
3) Development of records, variables, and facilities that are included in the NDEs
4) Linking cost information in the DSS databases to clinical information in the VA utilization databases.

This handbook documents all NDE files from FY98 through FY00, including the information in the FY00 NDE Treating Specialty file updated in July of 2001.

The extracts include separate files for outpatient and inpatient encounters. Each file contains the total cost of the encounter and fields to identify the patient, the location of service, and the date it occurred. Subtotals are provided for different categories of cost: laboratory, pharmacy, surgery, radiology, nursing and all other care. Each of these subtotals is further subdivided into fixed direct, variable direct, and indirect costs.

The outpatient data consist of nearly 100 million records, a data set so large that it must be distributed among several files. Each record represents the cost of a particular service on a particular day. There may be more than one record for each day that a patient receives outpatient VA care. There is a separate record for each clinic the patient visited. Additional records tabulate the cost of other utilization.

There are two views of the inpatient data. The discharge view has one record for each hospital discharge that occurred during the fiscal year. The discharge extract includes the entire cost of these stays, even if they began before the beginning of the fiscal year.

The treating specialty view separates the stay into segments based on treating specialty (also known as bedsection). Each segment of the stay is represented by a separate record. The treating specialty extract includes only utilization from a single fiscal year. It includes costs incurred by patients who have not yet been discharged.

These extracts are stored as SAS files at the Austin Automation Center. They may be accessed using SAS batch programs, or by using the features of the KLF Menu, a web-based interactive system developed for non-programmers. This manual focuses on the contents of the SAS files.

Because the DSS NDEs do not contain detailed clinical information such as treatments and diagnosis, researchers often need to merge the NDEs to the VA health care encounter files, including the Patient Treatment Files (PTFs) and National Patient Care Database (NPCD) Outpatient files. This handbook describes the methods of merging each type of NDE file to the associated encounter file and demonstrates how well these databases reconcile in FY00.

The National Data Extracts were first developed in FY98. Because some sites were behind the schedule in implementing the DSS, FY98 NDE files are not complete. Also, human errors and computer bugs caused FY98 data to contain records of unreasonably expensive services. Also, as the FY98 NDE data were considered part of a pilot database, file name and location were not standardized. Although the quality of FY99 data was improved, these files still have problems. Researchers who use the NDEs in FY98 and FY99 ***should evaluate the data carefully***.

The NDE FY00 files are much better in terms of completeness in records and accuracy in costs. Most problems identified in the FY98 and FY99 data were fixed in the FY00 national extracts. However, Chapters 7 through 9 demonstrate that the FY00 NDE files do not reconcile completely with the PTF and NPCD Outpatient files. Therefore, researchers will still need to evaluate the data to see if utilization and cost are reasonably reported in the database. This handbook provides guidelines for data evaluation.

Chapter Summary

This handbook describes the National Data Extracts (NDEs) of the Decision Support System (DSS). These files report the cost of every inpatient and outpatient encounter provided by VA. The handbook explains how to access the files, the data they include, and how they may be linked to VA utilization databases. It describes the NDE files created from the 1998 through 2000 fiscal years. The NDE is made up of multiple files, including two views of inpatient data and outpatient data stored by region where care was provided.

Chapter 2. Permission to Use DSS National Extracts

Users who wish to access the national extract must complete a "Time Sharing Request Form" and a "Data Non-Disclosure Agreement." Users who wish to work with true Social Security Numbers must also complete a "Privacy Act Statement." Non-VA users must obtain additional approval. These forms are included in this manual as Appendix.

The VA Information Resource Center (VIReC) also assists VA researchers with obtaining permission to access the DSS NDE files. Detailed information can be obtained from the VIREC website (http://www.virec.research.med.va.gov).

2.1 Time Sharing Request Form

The user must complete the standard form (VA Form 9957) to obtain permission to use VA files at the Austin Automation Center. The applicant must provide his or her name, Austin account number, and one of the functional task codes listed below. Most users will use the first task code, which provides access to the files that use scrambled Social Security Numbers as the patient identifier**.**

Task code	Access level
110TT10	DSS extracts with scrambled Social Security Numbers only
110TT11	DSS extracts and access to real Social Security Numbers for a particular medical center
110TT12	DSS extracts and access to real Social Security Numbers for a particular VISN
110TT13	DSS extracts and access to all real Social Security Numbers

This form must be signed by the applicant's first-level supervisor as the "Requesting Official." It is then filed with the local information security officer, who assigns the task codes.

2.2 Data Non-Disclosure Agreement

VA requires DSS users to sign a non-disclosure agreement. By signing this agreement, the user pledges not to release to the public certain types of detailed DSS cost information. The purpose of this pledge is to prevent release of DSS data that might compromise the ability of VA to negotiate private contracts. The types of aggregate data that may be released, and the procedure for obtaining exceptions to the policy are described in the draft DSS access policy, are included in this manual as Appendix.

The non-disclosure form can be completed by including "DSS extracts" as the name of the files being sought, as well as the appropriate year. The completed non-disclosure agreement should be faxed to Rhonda Albo, VISN Support Service Center (VSSC) Assistant, at 775-337-2221.

2.3 Privacy Act Statement

Users who wish to work with true Social Security Numbers must also complete a "Privacy Act Statement." To access the true Social Security Number of patients from a single station or a single network, the privacy act statement must be approved by the medical center director. To access the true numbers of patients from more than one network, the VHA security office in headquarters must approve access. The completed form should be submitted to the

local information security officer. If you need help, please contact Veronica Graves: (202) 273-9198 (primary) or Clay Johnson: (202) 273-6266 (secondary).

2.4 KLF menu

Reports generated from the NDE files are available from the KLF menu website (http://klfmenu.med.va.gov). Researchers can also customize the reports for a specific medical condition, facility, or both. To access the KLF menu, individuals should submit the data nondisclosure agreement. KLF must be accessed with Microsoft Internet Explorer; other web browsers may not be fully compatible. The userid, password, and domain are the same as those used for VA exchange email.

2.5 Non-VA Users

The above permissions apply to VA employees and individuals who work for VA without compensation (WOC status). Individuals not employed by or affiliated with the U.S. Department of Veterans Affairs who wish to use the national extract must submit the same forms as other users (except the VA9957 Time Sharing Request Form), and submit their request to John Bonsall at the VA DSS Bedford Technical Support Office at (781) 275-9175, extension 106.

2.6 True Social Security Numbers

Individuals who have obtained the appropriate permission may work with the true Social Security Numbers of the patients whose care is reported in the national extracts.

True Social Security Numbers are found in a file that includes a record for each patient, and both true and encrypted Social Security Numbers. The files that act as a "crosswalk" between the true and encrypted numbers are named as follows:

RMTPRD.PRO.DSS.NATL.REALSSN.FYxx
RMTPRD.PRO.DSS.STA.REALSSN.FYxx
RMTPRD.PRO.DSS.VISN.REALSSN.FYxx

The last two digits of the fiscal year should be substituted for xx. The station-level file is named using the 3-digit station identifier. The extract and the crosswalk file must be sorted using encrypted Social Security Numbers. They should then be merged using the encrypted Social Security Numbers as the merge variable in the SAS data step. The resulting data set will contain the true Social Security Numbers. Users should strive to protect patient confidentiality by using only those true Social Security Numbers needed for their study; these should be stored only as long as they are needed.

Chapter Summary

The steps for obtain permission for to use the DSS NDE files is described. Users must complete a "Time Sharing Request Form" and a "Data Non-Disclosure Agreement." Those who wish to work with true Social Security Numbers must also complete a "Privacy Act Statement."

Chapter 3. Cost Data in the National Extract

3.1 How DSS estimates cost

DSS extracts data from the VA general ledger (Financial Management System) and the VA payroll system (PAID). FMS and PAID track expenditures by Budget Object Code. The Budget Object Codes distinguish the type of expense, identifying specific job categories (e.g., physicians, nurses, etc), or type of supplies or equipment. These systems also track expenditures by the service, an administrative entity such as nursing, laboratory, or medicine. Neither the Budget Object Code nor the service corresponds to a particular location where patient care is provided. Data must be entered into DSS to allocate costs to cost centers defined by their function.

This allocation of cost from FMS and PAID is done by the Account Level Budgeter (ALB). Costs are assigned to Account Level Budget Cost Centers (ALBCC). These cost centers consist of patient care departments such as primary care clinics, intensive care wards, or psychiatric units, as well as overhead departments, such as administration or environmental services.

Data on employee activities are used to allocate expenses. The payroll expense of physicians is allocated using individual time reports completed by each physician. Some medical centers use time reports for all employees. At other medical centers, the allocation of the non-physician labor cost is based on periodic reports made by managers. The ALBCC report includes detail on each type of cost, including the Budget Object Code (BOC). This code distinguishes the labor type, such as physicians versus nurses.

In the next step, costs are distributed to patient care departments and then to intermediate products. This is carried out in the DSS Department Cost Manager (DCM).

The costs of a few ALB cost centers, called “dead end accounts,” are not carried from ALBCC to DCM. Dead end accounts represent costs that have no corresponding workload. An example is services provided under contract.

Costs of overhead are distributed in a “step down” method. The DSS step down restricts the cost of some overhead departments so that they are only distributed to the corresponding patient care departments.

DCM tracks costs using six categories, including three categories for employee labor and a category for contract labor. The variable labor (VL) categories include VL2 (nursing), VL4 (providers including physicians, psychologists, dentists, nurse practitioners, and residents and interns), VL5 (contracted labor) and VL1 (all other).

DCM also extracts information on the workload produced by each department. This workload is a count of the number of units of each intermediate product produced by that department. An intermediate product is a specific service or product used in a hospital stay or outpatient visit. Examples include: a chest x-ray, a day in the medical ward, or a minute in the operating room.

Relative values are used to distribute costs among intermediate products. VA provides sites with a national template of relative values that medical centers may modify to reflect local conditions. Each intermediate product has a set of six relative values, one relative value for each type of cost. Relative values for labor costs are expressed in minutes. For example, the relative value for nursing labor is the number of minutes of nursing labor ordinarily required to make that product.

To find the nursing labor cost in a product, DSS multiplies the expected minutes of nursing labor (the relative value) by the mean cost of nursing labor per relative value unit. This mean cost is found by dividing the department's nursing labor cost by its nursing labor workload. The workload is the sum of the expected minutes of nursing labor required to produce all of intermediate products of the department.

For each product, DSS identifies the cost for each of the six types of expense. These are added together to find the total cost of that intermediate product. DSS computes two different intermediate product costs: a standard cost, based on expected department cost and workload, and an actual cost, based on the department's actual cost and workload.

The Clinical Cost Manager (CCM) finds the number of intermediate products used in each health care encounter (e.g., in an outpatient visit or hospital stay). It multiplies the number of products used in the encounter by the cost of each product. The cost of all products is summed to find the total cost of the encounter. CCM also makes two cost estimates, a standard cost and an actual cost.

3.2 Cost data reported in the NDEs

DSS national data extracts report the total actual cost of each encounter. They also report cost sub-totals. The sub-totals are the costs incurred in a group of departments. The designers of the NDE assigned DSS departments to six mutually exclusive groups: nursing, surgery, laboratory, radiology, pharmacy, and all others. The group of nursing departments represents inpatient nursing costs; it is not used in the outpatient NDE files. Table 3.1 lists the departments associated with each of these cost categories.

Table 3.1 Cost Categories and Corresponding Intermediate Product Departments

Cost Category	Intermediate Product Department	DSS Code for Intermediate Product Department
Laboratory	All laboratory departments	Codes beginning with "L"
Pharmacy	All pharmacy departments	Codes beginning with "D"
Radiology	Radiation therapy	Codes beginning with "H"
	Medical ultrasound	MTB
	Diagnostic radiology	Codes beginning with "X"
	Radiation therapy treatment	ZT/Z06
	Send outs radiation therapy	ZT/Z07
	Inpatient radiation therapy MD care	ZT/Z08
Nursing	Inpatient Nursing Units	Codes beginning with "U"
	Geriatric Nursing Units	32
	Domiciliary	40, 45, 4L
	PRRTP Units	P4A, P4B, P4C, P4D, P4E, P4F, P4G
Surgery	Operating Room	S31
	Anesthesia Pre OR, OR and Post OR.	S3S, SSJ, G31, G3S, GSJ
	Cysto room	S34
	Implants	S36
	Ambulatory surgery OR	ASX, SSX
All Other		

Surgery cost includes costs such as pre-op, recovery, the operating suite and the recovery room. It does not include the cost of surgical clinics (for outpatient care) or the daily cost of surgical wards (for inpatient care). The nursing costs include the cost of operating regular acute-care wards and long term care units, but should not include any physician costs. The sum of the costs reported in the six department groups is equal to the total cost of the encounters.

Each cost sub-total is divided into three categories: fixed direct costs, variable direct costs, and indirect costs. Direct costs are those that are directly attributable to a patient care department. Costs that are incurred regardless of the volume of services provided are considered fixed costs. Costs that vary with the volume of services provided are called variable costs. Variable costs consist of supplies and the cost of labor that might be released if workload decreased. Indirect costs are the costs of overhead departments such as housekeeping, engineering, and administration. Because indirect costs are fixed in the short-term, the category of variable indirect costs does not exist.

3.3 Cost Information in Current Year File

NDEs for the current year include information from the beginning of the fiscal year up to the current month. For example, the March extract will contain information from October 1 to March 31. When a new current-year extract is created, it is a cumulative file that replaces earlier files for the fiscal year. Thus the March extract will replace the February extract.

DSS finds the actual cost of intermediate products by dividing the total cost of a department by its total workload. The workload is expressed in relative value units, and each product has a relative value associated with it. Since cost and workload change as the year progresses, the unit cost of an intermediate product may change monthly as the year progresses. As a result, there may be some change in costs as new cumulative extracts are created during the fiscal year. A particular intermediate product that was produced in October may be reported with one cost in the February extract and may have a slightly different cost in the March extract.

A final extract is created at the end of the federal fiscal year, representing the period October 1 through September 30. Since the final extract contains costs created by averaging that fiscal year's monthly costs, the DSS costs reported at the end-of-year extracts are stable, and should never change.

3.4 Cost Estimates for Prior Year Utilization

DSS cost estimates are based on unit costs of intermediate products estimated in the same fiscal year as the year of the file. For example, cost estimates in the FY98 file would be based on Fy98 costs, ***not FY97 costs***. The discharge file contains information on hospital stays that ended in the current fiscal year. Some of these stays began in a previous fiscal year. The cost of utilization that is from a prior fiscal year is estimated using the current fiscal year's unit costs.

3.5 Cost Information for Integrated Facilities

When two facilities are integrated, the legacy facility becomes a division of the primary facility. The new legacy facility's station number is the primary facility's station number followed by a suffix. For example, the medical center identification number (the variable called "STA3N") only contains 3 digits of a station number. Cost information for the legacy facility is under the old station number before the integration and under the primary facility's STA3N number after the integration. If integration occurs at the beginning of a fiscal year (i.e. October 1), the legacy facility's old station number will disappear from the new fiscal year and its cost information will be under the primary facility's station number. However, if two facilities integrate in the middle of a fiscal year, encounters that occurred ***before*** the integration will be recorded under the legacy facility's old station number and encounters that occurred ***after*** the integration will be under the primary facility's station number. In this case, the legacy facility's old station number in the NDE files appears until the month of the integration. Facility integrations that have taken place since 1998 are reported in Table 3.2.

Table 3.2. Facility Integration Records FY98-FY00

Date of Integration	Integrated Facility (primary facility/legacy facility)	Old STA3N	New STA3N
January 1998	Eastern Kansas HCS (Topeka/Leavenworth)	686	677
July 1998	VA Montana HCS (Fort Harrison/Miles City)	617	436
October 1998	North Florida/South Georgia Veterans HCS (Gainesville/Lake city)	594	573
	VA Greater Los Angeles HCS (West Los Angeles/Southern California System of Clinics)	752,665	691
July 1999	VA Boston HCS (Boston/Brockton/West Roxbury)	525,690	523
October 1999	New York Harbor HCS (New York/Brooklyn)	527	630
	VA Health Care Network Upstate New York System (VA Western New York HCS/Canandaigua)	532	528
April 2000	VA Health Care Network Upstate New York System (VA Western New York HCS/Syracuse)	670	528
	VA Central Plains Health Network –VISN 14 (Omaha/Greater Nebraska HCS)	597	636
July 2000	VA Health Care Network Upstate New York System (VA Western New York HCS/Albany)	500	528
	VA Health Care Network Upstate New York System (VA Western New York HCS/Bath)	514	528
	VA Central Plains Health Network –VISN 14 (Omaha/Central Iowa HCS)	555	636
October 2000	VA Tennessee Valley HCS (Nashville/Murfreesboro)	622	626
	VA Central Plains Health Network –VISN 14 (Omaha/Iowa city)	584	636

Chapter Summary

The methods for determining costs in DSS are described. Costs reported in the VA payroll and general ledger are assigned to cost centers. Indirect costs are distributed to direct cost centers. Cost, workload, and relative value measures are combined to estimate the unit cost of each intermediate product. The cost of these units and the quantity of intermediate products are used to find the cost of each health care encounter. The NDE files report the cost of each encounter, as well as sub-totals for the cost incurred in groupings of departments. Files are updated periodically to report costs incurred in the fiscal year to date.

Chapter 4. Outpatient Extracts

The outpatient extract consists of information on all VA outpatient visits, as well as the cost of outpatient laboratory, pharmacy, ancillary services, and other care not tied to a specific outpatient visit. Due to the very large number of records in this database, the file is divided into parts.

4.1 Outpatient Extract Files

The first outpatient extract was created for FY98. Facilities were divided into two groups, each having two data files. All medical and pharmaceutical data from the first half of the year (10/97-03/98) appears in one file, and all data from the second half of the year (04/98-09/98) appears in the second file. A new system for organizing the outpatient extract files was adopted starting with FY99. Facilities are now sorted by VISN into one of four groups. For each group, all medical records for the fiscal year appear in one file and all pharmaceutical records in a second file. The file location, name, and number of records are tabulated in Table 4.1.

Table 4.1 Outpatient NDE File and Number of Records FY98

Year	File Group	Extract File Name	No. of Records
FY98	Group 1	RMTPRD.S654HAW.DSS.SS.FY98FRST.KLFOPAT1	26,045,057
		RMTPRD.S654HAW.DSS.SS.FY98LAST.KLFOPAT1	27,567,984
	Group 2	RMTPRD.S654HAW.DSS.SS.FY98FRST.KLFOPAT2	14,870,977
		RMTPRD.S654HAW.DSS.SS.FY98LAST.KLFOPAT2	15,649,569
FY99	VISN 1-5	RMTPRD.MED.SAS.DSS.V1TO5.FY99.OPAT	11,915,619
		RMTPRD.MED.SAS.DSS.V1TO5P.FY99.OPAT*	6,347,887
	VISN 6-10	RMTPRD.MED.SAS.DSS.V6TO10.FY99.OPAT	14,691,337
		RMTPRD.MED.SAS.DSS.V6TO10P.FY99.OPAT*	10,279,671
	VISN 11-17	RMTPRD.MED.SAS.DSS.V11TO16.FY99.OPAT	14,207,103
		RMTPRD.MED.SAS.DSS.V11TO16P.FY99.OPAT*	9,795,129
	VISN 18-22	RMTPRD.MED.SAS.DSS.V17TO22.FY99.OPAT	14,112,262
		RMTPRD.MED.SAS.DSS.V17TO22P.FY99.OPAT*	8,597,002
FY00	VISN 1-5	RMTPRD.MED.SAS.DSS.V1TO5.FY00.OPAT	12,500,003
		RMTPRD.MED.SAS.DSS.V1TO5P.FY00.OPAT*	7,475,266
	VISN 6-10	RMTPRD.MED.SAS.DSS.V6TO10.FY00.OPAT	15,216,734
		RMTPRD.MED.SAS.DSS.V6TO10P.FY00.OPAT*	11,751,257
	VISN 11-17	RMTPRD.MED.SAS.DSS.V11TO16.FY00.OPAT	15,162,257
		RMTPRD.MED.SAS.DSS.V11TO16P.FY00.OPAT*	11,431,268
	VISN 18-22	RMTPRD.MED.SAS.DSS.V17TO22.FY00.OPAT	14,719,212
		RMTPRD.MED.SAS.DSS.V17TO22P.FY00.OPAT*	9,654,656

*Pharmacy records.

4.2 Accessing Files: MVS Name vs. SAS File Name

One of the MVS file names included above must be included in the DD statement in the user's Job Control Language (JCL). The SAS file name for all of FY98 DSS outpatient national extracts is OUTPAT. The following examples illustrate use of the MVS and SAS file name for Group 1 facilities for the first half of FY98. The DD statement tells the system what file is being used. The SAS statement (PROC CONTENTS) references the file as IN1.OUTPAT. Contrary

to the normal convention, the SAS file name for the FY98 files is not the same as the last extension of the MVS name. Starting from FY99, the SAS file name for NDE outpatient files is OPAT, which is the same as the last extension of the MVS name.

```
000001 //S640PGBX JOB  XXXUNKA9,S640PGB,
000002 // NOTIFY=&SYSUID,MSGCLASS=I
000003 //STEP1 EXEC SAS
000004 //IN1  DD
DSN=RMTPRD.S654HAW.DSS.SAS.FY98FRST.KLFOPAT1,DISP=SHR
000005 //LIBRARY DD DSN=MDPPRD.MDP.FMTLIB6,DISP=SHR
000006 //SYSIN DD *
```

4.3 Facilities in Outpatient Extract Files

Most of the medical centers reported records for the entire fiscal year. However, the DSS national extracts may not contain complete records for a few facilities for several reasons. First, some stations were integrated in the middle of a fiscal year. When two facilities integrate, the legacy facility becomes a division of the primary facility. The new legacy facility's station number is the primary facility's station number followed by a suffix. Because STA3N only contains 3 digits of a station number, the legacy facility will use the primary facility's STA3N. Therefore, the national extracts keep the legacy facility's old station number for health care encounters that occurred before the merger but use the primary facility's STA3N number for encounters that occurred after the merger. Second, a few stations did not complete the data process before the NDEs were generated. Tables 4.2a, 4.2b, 4.3a, 4.3b, 4.4a, and 4.4b list the number of records and maximum fiscal period for which encounters were recorded for each facility in each of the outpatient extract files from FY98 through FY00.

Table 4.2a. Facilities, Number of Records, and Maximum Fiscal Period in Outpatient Extract Group_1 Files (FY98)

	OPAT1_FP1-6 (N = 26,045,057)		OPAT1_FP7-12 (N = 27,567,984)	
STA3N	No. of Records	Maximum Fiscal Period	No. of Records	Maximum Fiscal Period
402	232,437	6	256,994	12
405	180,824	6	186,675	12
437	134,481	6	149,294	12
438	154,975	6	160,418	12
442	77,321	6	89,474	12
452	129,924	6	118,781	12
500	267,964	6	287,937	12
501	429,376	6	437,443	12
504	272,855	6	280,197	12
506	259,253	6	277,471	12
508	398,499	6	451,083	12
512	432,218	6	441,278	12
514	110,427	6	114,740	12
515	215,392	6	224,695	12
516	454,098	6	465,757	12
518	150,961	6	158,277	12
519	109,800	6	116,180	12
521	345,950	6	411,286	12
525	321,411	6	315,627	12
526	291,222	6	317,102	12
527	411,652	6	433,291	12
528	399,209	6	434,174	12
532	99,531	6	103,802	12
534	294,950	6	314,928	12
538	145,597	6	155,118	12
542	118,260	6	109,231	12
543	165,921	6	185,912	12
544	377,196	6	409,061	12
552	229,915	6	231,625	12
554	276,049	6	301,421	12
556	159,631	6	162,829	12
568	210,408	6	215,156	12
575	80,015	6	87,245	12
578	475,294	6	495,211	12

Table 4.2a. (Cont.) Facilities, Number of Records, and Maximum Fiscal Period in Outpatient Extract Group_1 Files (FY98)

STA3N	No. of Records	Maximum Fiscal Period	No. of Records	Maximum Fiscal Period
580	620,925	6	672,975	12
581	216,014	6	222,578	12
584	219,947	6	247,088	12
586	312,747	6	352,193	12
589	298,386	6	323,760	12
594	246,764	6	263,513	12
596	268,943	6	297,265	12
598	598,696	6	626,645	12
600	461,360	6	468,940	12
603	310,268	6	329,964	12
608	129,746	6	135,732	12
609	262,959	6	293,289	12
610	170,663	6	170,812	12
613	229,557	6	255,687	12
614	335,780	6	364,291	12
*617	52,276	6	30,302	9
618	557,077	6	559,712	12
621	268,213	6	291,052	12
622	264,051	6	272,278	12
626	329,249	6	356,107	12
629	398,907	6	419,012	12
630	355,290	6	380,459	12
632	329,420	6	357,231	12
635	447,804	6	457,835	12
640	473,913	6	515,398	12
644	431,658	6	445,787	12
646	426,829	6	448,200	12
648	402,787	6	431,581	12
649	115,109	6	131,174	12
650	228,070	6	243,105	12
653	140,157	6	167,248	12
654	175,641	6	153,942	12
656	179,039	6	190,571	12
657	427,013	6	429,342	12

*Integrated facilities (see Table 3.2).

Table 4.2a. (Cont.) Facilities, Number of Records, and Maximum Fiscal Period in Outpatient Extract Group_1 Files (FY98)

STA3N	No. of Records	Maximum Fiscal Period	No. of Records	Maximum Fiscal Period
658	321,647	6	339,993	12
662	313,869	6	328,683	12
663	518,965	6	562,872	12
666	54,738	6	64,264	12
667	294,238	6	319,315	12
668	145,174	6	157,689	12
670	274,214	6	304,322	12
671	565,928	6	608,728	12
673	729,137	6	763,705	12
674	580,217	6	606,450	12
677	347,283	6	362,083	12
678	271,149	6	283,122	12
679	145,878	6	145,790	12
687	77,721	6	84,116	12
688	432,742	6	441,619	12
689	397,647	6	415,450	12
691	425,541	6	473,816	12
693	288,681	6	311,584	12
695	406,690	6	418,094	12
756	169,419	6	179,858	12
757	185,905	6	191,650	12

Table 4.2b. Facilities, Number of Records, and Maximum Fiscal Period in Outpatient Extract Group_2 Files (FY98)

	OPAT2_FP1-6 (N = 14,870,977)		OPAT2_FP7-12 (N = 15,649,569)	
STA3N	No. of Records	Maximum Fiscal Period	No. of Records	Maximum Fiscal Period
436	119,712	6	64,291	9
459	111,588	6	115,779	12
460	155,150	6	162,521	12
463	91,529	6	93,925	12
502	196,074	6	211,401	12
503	110,742	6	128,796	12
509	299,757	6	317,356	12
517	114,128	6	135,755	12
520	397,200	6	424,752	12
*523	290,181	5	201,432	11
529	100,280	6	102,785	12
531	197,905	6	202,526	12
537	506,599	6	617,986	12
539	243,266	6	252,257	12
540	163,434	6	173,227	12
541	580,125	6	601,107	12
546	467,476	6	463,945	12
548	387,361	6	407,157	12
549	622,672	6	679,739	12
550	227,618	6	243,391	12
553	313,354	6	343,831	12
555	220,994	6	233,859	12
557	147,337	6	150,819	12
558	232,368	6	248,808	12
561	457,556	6	488,008	12
562	130,903	6	147,837	12
564	179,613	6	200,510	12
565	196,644	6	233,099	12
567	68,065	6	79,791	12
570	203,125	6	219,146	12
573	467,295	6	468,801	12
583	390,158	6	389,875	12
585	107,360	6	117,819	12
590	230,032	6	220,889	12

*Integrated facilities (See Table 3.2).

Table 4.2b. (Cont.) Facilities, Number of Records, and Maximum Fiscal Period in Outpatient Extract Group_2 Files (FY98)

STA3N	No. of Record	Maximum Fiscal Period	No. of Record	Maximum Fiscal Period
593	211,422	6	248,152	12
595	196,085	6	209,546	12
597	168,489	6	178,928	12
605	351,243	6	361,356	12
607	194,366	6	218,798	12
612	456,281	6	483,741	12
619	241,113	6	281,813	12
620	229,703	6	256,272	12
623	243,530	6	239,662	12
631	127,860	6	130,497	12
636	196,189	6	205,394	12
637	158,129	6	211,559	12
642	379,941	6	401,639	12
647	117,594	6	124,515	12
652	322,032	6	344,898	12
655	138,970	6	142,936	12
659	211,378	6	217,871	12
660	270,181	6	293,401	12
664	345,934	6	351,443	12
665	477,710	6	478,588	12
672	499,498	6	545,444	12
676	110,527	6	116,386	12
*686	69,665	3	-	-
691	425,536	6	463,510	12

*Integrated facilities (see Table 3.2).

Table 4.3a Facilities, Number of Records, and Maximum Fiscal Period in Outpatient Encounter Files (excluding pharmaceutical records) (FY99)

VISN 1 TO 5 (N= 11,915,619)			VISN 6 TO 10 (N=14,691,337)		
STA3N	**No. of records**	**Maximum Fiscal Period**	**STA3N**	**No. of records**	**Maximum Fiscal Period**
402	278,647	12	508	626,271	12
405	223,469	12	509	407,594	12
460	220,163	12	516	650,108	12
500	406,007	12	517	158,090	12
503	164,735	12	521	454,195	12
512	748,885	12	534	406,838	12
514	168,188	12	538	197,973	12
518	254,088	12	539	369,248	12
523	366,956	8	541	797,358	12
*525	340,959	9	544	439,711	12
526	486,963	12	546	631,567	12
527	609,621	12	548	504,388	12
528	476,171	12	552	343,180	12
529	15,525	1	557	197,870	12
532	249,479	12	558	336,746	12
540	239,510	12	565	279,348	12
542	157,341	12	573	898,283	12
561	580,092	12	581	305,688	12
562	171,849	12	590	317,647	12
595	275,445	12	596	367,613	12
608	179,005	12	603	375,580	12
613	351,148	12	614	538,029	12
620	376,142	12	619	341,122	12
630	540,823	12	621	355,259	12
631	225,863	12	622	309,168	12
632	444,100	12	626	401,658	12
642	556,053	9	637	224,965	12
646	583,721	12	652	454,023	12
650	310,485	12	658	369,545	12
670	388,710	12	659	272,165	12
688	561,848	12	672	801,813	12
689	573,989	12	673	1,163,460	12
693	389,639	12	679	188,343	12
			757	206,491	12

Table 4.3a (Cont.) Facilities, Number of Records, and Maximum Fiscal Period in Outpatient Encounter File (excluding pharmaceutical records) (FY99)

VISN 11 TO 16 (N= 14,207,103)			VISN 17 TO 22 (N= 14,112,262)		
STA3N	**No. of records**	**Maximum Fiscal Period**	**STA3N**	**No. of records**	**Maximum Fiscal Period**
437	167,329	12	436	184,861	11
438	207,090	12	442	123,425	12
452	168,585	12	459	165,269	12
502	228,551	12	501	567,977	12
506	330,659	12	504	307,697	12
515	284,641	12	519	120,198	12
520	468,200	12	531	239,904	12
537	473,172	7	549	951,015	12
543	242,728	12	554	417,221	12
550	287,772	12	567	106,383	12
553	435,408	12	570	283,300	12
555	332,282	12	575	114,822	12
556	246,853	12	593	336,308	12
564	230,256	12	600	713,001	12
568	304,658	12	605	519,640	12
578	577,781	12	612	653,835	12
580	856,333	12	640	667,577	12
583	506,073	12	644	590,875	12
584	317,113	12	648	598,134	12
585	146,198	12	649	156,248	12
586	452,609	12	653	213,182	12
589	387,835	12	654	218,726	11
598	714,763	12	660	385,096	12
607	278,135	12	662	488,467	12
609	358,966	12	663	800,065	12
610	250,576	12	664	525,603	12
618	700,191	12	666	83,728	12
623	253,269	12	668	219,026	12
629	526,190	12	671	741,557	12
635	522,539	12	674	822,497	12
636	232,927	9	678	412,781	12
647	146,599	12	687	88,703	12
655	137,568	12	691	1,028,052	12
656	270,109	12	692	58,626	12
657	521,027	12	756	208,463	12
667	398,947	12			
676	168,505	12			
677	501,529	12			
695	573,137	12			

Table 4.3b Facilities, Maximum Fiscal Period, and Number of Records in Outpatient Pharmaceutical Encounter Files (CL=160) (FY99)

VISN 1 TO 5 (N= 6,347,887)			VISN 6 TO 10 (N=10,279,671)		
STA3N	**No. of records**	**Maximum Fiscal Period**	**STA3N**	**No. of records**	**Maximum Fiscal Period**
402	263,855	12	508	379,371	12
405	161,914	12	509	252,833	12
460	134,623	12	516	389,883	12
500	232,227	12	517	127,982	12
503	128,625	12	521	441,780	12
512	304,415	12	534	297,627	12
514	95,748	12	538	131,782	12
518	73,627	12	539	179,137	12
523	159,425	8	541	506,531	12
*525	145,973	9	544	405,047	12
526	180,279	12	546	326,726	12
527	245,523	12	548	366,067	12
528	276,001	12	552	191,048	12
529	6,851	1	557	155,803	12
532	106,658	12	558	210,511	12
540	146,188	12	565	269,375	12
542	61,960	12	573	773,292	12
561	297,091	12	581	266,341	12
562	152,769	12	590	150,655	12
595	177,538	12	596	284,740	12
608	119,334	12	603	315,926	12
613	173,298	12	614	248,967	12
620	177,089	12	619	311,581	12
630	213,874	12	621	222,080	12
631	77,622	12	622	280,020	12
632	292,146	12	626	341,352	12
642	190,103	9	637	228,127	12
646	360,502	12	652	270,920	12
650	209,167	12	658	293,230	12
670	280,009	12	659	224,539	12
688	280,284	12	672	500,804	12
689	333,042	12	673	600,981	12
693	290,127	12	679	118,136	12
			757	216,477	12

*Integrated facilities (see Table 2).

Table 4.3b. (Cont.) Facilities, Maximum Fiscal Period, and Number of Records in Outpatient Pharmaceutical Encounter Files (CL=160) (FY99)

VISN 11 TO 16 (N= 9,795,129)			VISN 17 TO 22 (N= 8,597,002)		
STA3N	**No. of records**	**Maximum Fiscal Period**	**STA3N**	**No. of records**	**Maximum Fiscal Period**
437	153,713	12	436	167,861	11
438	146,234	12	442	84,946	12
452	148,530	12	459	95,881	12
502	217,180	12	501	370,476	12
506	229,415	12	504	302,182	12
515	184,177	12	519	138,347	12
520	463,010	12	531	175,896	12
537	250,550	7	549	611,920	12
543	186,824	12	554	188,113	12
550	234,886	12	567	74,457	12
553	260,955	12	570	185,952	12
555	159,549	12	575	81,964	12
556	107,009	12	593	234,961	12
564	235,484	12	600	289,131	12
568	134,437	12	605	274,937	12
578	332,677	12	612	423,659	12
580	566,554	12	640	424,622	12
583	305,388	12	644	399,993	12
584	231,478	12	648	316,632	12
585	111,608	12	649	114,604	12
586	298,938	12	653	184,060	12
589	285,234	12	654	149,108	11
598	590,063	12	660	295,275	12
607	196,306	12	662	207,078	12
609	321,241	12	663	393,395	12
610	135,346	12	664	226,642	12
618	444,855	12	666	62,508	12
623	231,649	12	668	132,731	12
629	356,008	12	671	596,334	12
635	418,302	12	674	474,436	12
636	112,728	9	678	223,861	12
647	152,482	12	687	95,251	12
655	162,519	12	691	377,544	12
656	107,152	12	692	47,007	12
657	397,934	12	756	175,238	12
667	268,156	12			
676	81,152	12			
677	260,486	12			
695	314,920	12			

Table 4.4a. Facilities, Number of Records, and Maximum Fiscal Period in Outpatient Encounter Files (excluding pharmaceutical records) (FY00)

VISN 1 TO 5 (N=12,500,003)			VISN 6 TO 10 (N=15,216,734)		
STA3N	**No. of records**	**Maximum Fiscal Period**	**STA3N**	**No. of records**	**Maximum Fiscal Period**
402	295,655	12	508	677,692	12
405	215,398	12	509	447,490	12
460	190,039	12	516	713,767	12
*500	338,118	9	517	183,610	12
503	172,205	12	521	487,825	12
512	701,232	12	534	421,109	12
*514	130,606	9	538	200,730	12
518	246,222	12	539	398,364	12
523	939,002	12	541	723,423	12
526	490,513	12	544	460,142	12
528	1,119,195	12	546	596,412	12
529	153,565	12	548	515,197	12
540	264,077	12	552	343,076	12
542	153,188	12	557	203,360	12
561	620,986	12	558	368,462	12
562	185,811	12	565	296,611	12
595	286,136	12	573	1,003,413	12
608	182,489	12	581	315,607	12
613	361,412	12	590	317,456	12
620	383,849	12	596	369,542	12
630	1,096,606	12	603	384,784	12
631	174,660	12	614	517,920	12
632	465,034	12	619	330,203	12
642	603,936	12	621	355,536	12
646	595,263	12	622	328,209	12
650	322,137	12	626	420,412	12
*670	212,865	6	637	237,636	12
688	581,344	12	652	481,749	12
689	631,994	12	658	377,759	12
693	386,466	12	659	277,451	12
			672	874,691	12
			673	1,171,436	12
			679	209,164	12
			757	206,496	12

*Integrated facilities (see Table 3.2).

Table 4.4a (Cont.) Facilities, Number of Records, and Maximum Fiscal Period in Outpatient Encounter Files (excluding pharmaceutical records) (FY00)

VISN 11 TO 16 (N= 15,162,257)			VISN 17 TO 22 (N= 14,719,212)		
STA3N	**No. of records**	**Maximum Fiscal Period**	**STA3N**	**No. of records**	**Maximum Fiscal Period**
437	202,288	12	436	226,782	12
438	218,989	12	442	121,880	12
452	188,214	12	459	163,268	12
502	239,670	12	501	581,675	12
506	340,685	12	504	296,939	12
515	312,308	12	519	129,354	12
520	495,237	12	531	226,478	12
537	795,791	12	549	973,571	12
543	232,700	11	554	425,916	12
550	316,686	12	567	109,451	12
553	445,170	12	570	282,924	12
*555	253,301	9	575	127,787	12
556	268,160	12	593	370,144	12
564	257,562	12	600	673,789	12
568	314,932	12	605	525,865	12
578	589,075	12	612	665,224	12
580	842,163	12	640	613,348	12
583	519,104	12	644	622,073	12
584	330,710	12	648	571,327	12
585	165,126	12	649	166,250	12
586	462,621	12	653	220,517	11
589	371,982	12	654	267,245	12
*597	121,174	6	660	383,650	12
598	722,995	12	662	483,553	12
607	314,430	12	663	848,087	12
609	349,359	12	664	568,223	12
610	234,032	12	666	84,599	12
618	691,739	12	668	237,667	12
623	263,087	12	671	785,596	12
629	516,235	12	674	793,929	12
635	485,169	12	678	475,947	12
636	523,994	12	687	95,109	12
647	151,448	12	691	1,302,474	12
655	166,794	12	692	71,715	12
656	276,299	12	756	226,856	12
657	531,852	12			
667	421,308	12			
676	157,352	12			
677	491,113	12			
695	581,403	12			

*Integrated facilities (see Table 3.2).

Table 4.4b Facilities, Maximum Fiscal Period, and Number of Record in Outpatient Pharmaceutical Encounter Files (CL=160) (FY00)

VISN 1 TO 5 (N=7,475,266)			VISN 6 TO 10 (N=11,751,257)		
STA3N	**No. of records**	**Maximum Fiscal Period**	**STA3N**	**No. of records**	**Maximum Fiscal Period**
402	279,468	12	508	433,068	12
405	173,661	12	509	286,424	12
460	171,173	12	516	487,865	12
*500	205,970	9	517	133,990	12
503	154,436	12	521	488,260	12
512	364,666	12	534	333,227	12
*514	79,571	9	538	143,853	12
518	86,470	12	539	207,483	12
523	472,203	12	541	497,158	12
526	196,451	12	544	483,987	12
528	768,530	12	546	331,754	12
529	104,893	12	548	479,894	12
540	175,559	12	552	250,219	12
542	86,049	12	557	200,536	12
561	361,978	12	558	244,239	12
562	182,190	12	565	329,174	12
595	204,579	12	573	853,181	12
608	135,405	12	581	319,853	12
613	217,590	12	590	156,144	12
620	205,078	12	596	324,497	12
630	489,185	12	603	349,343	12
631	85,501	12	614	282,698	12
632	335,408	12	619	319,155	12
642	283,490	12	621	253,734	12
646	357,022	12	622	289,734	12
650	235,132	12	626	379,468	12
*670	156,204	6	637	244,271	12
688	262,834	12	652	279,978	12
689	284,691	12	658	315,021	12
693	359,879	12	659	285,873	12
			672	650,335	12
			673	796,691	12
			679	140,753	12
			757	179,397	12

*Integrated facilities (see Table 3.2).

Table 4.4b (Cont.) Facilities, Maximum Fiscal Period, and Number of Record in Outpatient Pharmaceutical Encounter Files (CL=160) (FY00)

VISN 11 TO 16 (N= 11,431,268)			VISN 17 TO 22 (N= 9,654,656)		
STA3N	**No. of records**	**Maximum Fiscal Period**	**STA3N**	**No. of records**	**Maximum Fiscal Period**
437	210,337	12	436	205,358	12
438	180,801	12	442	99,960	12
452	189,668	12	459	114,021	12
502	256,386	12	501	394,510	12
506	242,298	12	504	342,887	12
515	218,168	12	519	160,474	12
520	508,132	12	531	167,669	12
537	439,144	12	549	695,566	12
543	221,821	11	554	202,278	12
550	276,501	12	567	89,078	12
553	280,002	12	570	178,537	12
555	139,803	9	575	89,408	12
556	120,619	12	593	261,395	12
564	293,437	12	600	305,093	12
568	156,638	12	605	317,454	12
578	363,583	12	612	470,838	12
580	580,656	12	640	482,298	12
583	350,792	12	644	442,571	12
584	270,678	12	648	336,320	12
585	135,672	12	649	137,379	12
586	346,636	12	653	194,712	11
589	288,152	12	654	183,691	12
*597	95,495	6	660	300,620	12
598	631,137	12	662	234,908	12
607	232,194	12	663	422,746	12
609	387,078	12	664	250,562	12
610	172,078	12	666	71,685	12
618	471,411	12	668	155,885	12
623	247,861	12	671	660,155	12
629	395,456	12	674	549,038	12
635	435,953	12	678	274,815	12
636	326,329	12	687	110,466	12
647	186,874	12	691	494,397	12
655	167,642	12	692	58,678	12
656	134,287	12	756	199,204	12
657	431,105	12			
667	323,214	12			
676	99,697	12			
677	284,091	12			
695	339,442	12			

*Integrated facilities (see Table 3.2).

4.4 Encounter Flags Distinguish Visits from Other Care

The outpatient National Data Extract includes records on outpatient visits, as well as other ambulatory care provided to VA patients. The outpatient files include utilization not reported in the VA National Patient Care Database (NPCD) outpatient files; these additional records represent utilization records that cannot be tied a specific visit, such as prescriptions provided. The additional data are identified by a value of "N" for the flag (indicator) variable NPCD. Additionally, there are seven flag variables that further identify the type of utilization contained in the record. If the record is visit-specific, then the flag variable has a value of "Y"; otherwise it has a value of "N". These flag variables are mutually exclusive. For each record, only one of the seven flag variables is set to "Y". The definitions of the indicator variables are given in Table 4.5.

Table 4.5 Encounter Flag Variables Used in Outpatient Extract

Flag Variable Name	Pseudo DSS Stop	Flag Variable Indicates
1) NPCD	Not Applicable	Clinic visit reported in outpatient National Patient Care Database files
2) CLI	Based on clinic	Clinic appointment not appearing in the outpatient National Patient Care Database files—e.g., outpatient clinic visited by an inpatient
3) PROS	423	Prosthetics device
4) DDC	No code (missing values)	Denver Distribution Center record
5) NOSHOW	Based on clinic with missed appointment	Cost associated with missed appointment
6) PRE	160	Pharmacy utilization
7) UTIL	Based on clinic with these records	Utilization record -- reflects utilization that has no stop code, and no other flags can be assigned to.

DSS data are evaluated in the order that the flag variables appear in Table 4.5. Each type of utilization is reviewed to determine if it can fit in one of the categories represented by the flag variable. If it does not fit in the first possible category, it is then evaluated for each successive category.

The first step in assigning values to the seven flag variables is to determine whether the utilization data is associated with a clinic reported to the NPCD. If so, then NPCD is set to "Y", all remaining flag variables are set to "N", and a record is created with the cost of the encounter. If not, NPCD is set to "N" and the system moves on to the next flag variable. The second step considers whether the costs are associated with an outpatient stop for a clinic that appears in the VISTA scheduling package. An example of this type of care would be a visit to an outpatient clinic by a patient during his hospital stay. Such records are not transmitted to NPCD but ***do*** appear in DSS. If the record is of this type, the flag variable "CLI" is set to "Y" and all remaining flag variables are set to "N".

In this manner, each category is considered in turn. A cost that does not belong to an earlier category is assigned to the final category, with the flag "UTIL" set to "Y". Several

records may be created with the flag UTIL="Y", each distinguished by a different pseudo-stop code.

A "pseudo stop" code is assigned by DSS to help identify care. The pseudo stop code is a value assigned to the clinic stop variables CLSTOP and CLNUM. These codes are "pseudo" because the record is not in the NPCD outpatient file and is not considered an outpatient encounter for VA budgeting purposes. All records with pseudo stop codes are distinguished by a value of "N" for the flag variable NPCD.

The pseudo stop code provides information about the nature of the care provided. If a prosthetics device is dispensed without the patient visiting a prosthetics clinic, for example, the CLSTOP flag is set to "423". The flag for clinic visit (NPCD) is set to "N", and the flag for Prosthetics (PROS) is set to "Y" to indicate the special nature of this record. The pseudo stop codes are particularly useful for records with the flag UTIL="Y", as they identify the type of care, such as laboratory (CLSTOP=108).

To match the clinic stops used in the outpatient National Patient Care Database, the user should examine only those records with NPCD="Y".

4.5 Outpatient Cost Variables

Table 4.6 provides the names of the cost variables that are found in all three years of the outpatient extract. The first five rows of this table represent the department groupings; the columns represent the cost categories. Each of the cost variables is a number with 10 digits. The fixed direct, variable direct, and indirect cost for each cost category sum to the total cost for that category. The sum of the total costs of all of the categories equals the grand total cost (OCST_TOT).

Table 4.6 Cost Variables in Outpatient Extract FY98-FY00

Cost Category	Fixed Direct	Variable Direct	Indirect Cost	Total Cost	Year Included
Laboratory	OLAB_FD	OLAB_VD	OLAB_FI	OLAB_TOT	FY98
Pharmacy	OPHA_FD	OPHA_VD	OPHA_FI	OPHA_TOT	
Radiology	ORAD_FD	ORAD_VD	ORAD_FI	ORAD_TOT	
Surgery	OSUR_FD	OSUR_VD	OSUR_FI	OSUR_TOT	
All Other	OAO_FD	OAO_VD	OAO_FI	OAO_TOT	
Total				OCST_TOT	
Selected Cost					
Pharmacy Variable Supply		OPHA_VS			FY99
VL4[1] Surgery		OSUR_VL4			FY00
VL4[1] Radiology		ORAD_VL4			
VL4[1] All Other		OAO_VL4			
VL5[2] Surgery		OSUR_VL5			
VL5[2] Radiology		ORAD_VL5			
VL5[2] All Other		OAO_VL5			
Prosthetics Labor		OPROLBR			
Prosthetics Supply		OPROSUPL			
Denver Distribution Center Supply		ODDCSUPL			
Home Oxygen		OHOMEOX			
Surgical Implant		OSURGIMP			

1. VL4: Variable labor cost of employee providers, including physicians, dentists, and psychologists.

2. VL5: Variable labor of contract providers.

Certain cost fields in the outpatient extract are found only in more recent files. Most were added in FY00. It is important to note that the costs reported under the Selected Cost category are also represented in the variable direct cost fields. To avoid double counting, the variable direct costs should never be added to these selected cost fields. The Selected Cost fields are defined as follows:

OPHA_VS – Variable cost of pharmacy supply

This variable provides the cost of all supplies used by the pharmacy for this record. (Remember that the record represents all pharmacy costs for this patient on this day). This variable supply cost is the principal the cost of pharmaceuticals. This cost is found as follows:

Variable Cost of Pharmacy Supply = Encounter Direct Variable Cost x (A/B)
A = Total Pharmacy Department Variable Supply Cost
B = Total Pharmacy Department Direct Variable Cost (variable labor + variable supply + variable other)

This Direct Variable Cost for this record is multiplied by a percentage factor to determine its Variable Supply Cost. The percentage factor is the same for all outpatient pharmacy records at this medical center for this year. It is the total Pharmacy Variable Supply Cost of the pharmacy department at this medical center, divided by the department's Direct Variable Cost. This method assumes that the non-supply variable cost of each record is proportionate to the supply costs. The non-supply variable costs are Variable Labor (VL) and Variable Other (VO).

Oxxx_VL4 and Oxxx_VL5 – Variable Labor Cost category 4 and 5 (xxx – department name: SUR, RAD, AO)

The two variable labor costs (VL4 and VL5) are reported in three departments: Surgery, Radiology, and All Other. These are the costs of providers, including physicians, psychologists, residents, dentists, etc. VL4 is cost for employee providers and VL5 is the cost for contracted services. Similar to the Pharmacy Variable Supply Cost, the VL4 and VL5 are found using the following formulas:

Variable Labor Cost (category 4) = Encounter Department Variable Direct Cost x (A/B)
A = Total Department Variable Labor Cost (category 4)
B = Total Department Direct Variable Cost (variable labor + variable supply + variable other)

Variable Labor Cost (category 5) = Encounter Department Variable Direct Cost x (A/B)
A = Total Department Variable Labor Cost (category 5)
B = Total Department Direct Variable Cost (variable labor + variable supply + variable other)

OPROLBR and OPROSUPL – Prosthetics labor and supply costs

Prosthetics supply costs include supply costs in the departments identified by codes that begin with the following characters: QSP*, QC2*, QC5*, QC7*, QCS*. Prosthetics labor costs include labor costs in these departments: QRA*, QSH*, QSI* (Q-S-letter I), QSN*, QR1* (Q-R-one).

ODDCSUPL – Denver distribution center supply cost.

Denver Distribution Center contains the cost of hearing aids, eyeglasses, prosthetic supplies and other items provided by the VA Denver Distribution Center. The department code for the Denver Distribution Center Supply cost is OSO* (O, S, letter O).

OHOMEOX – Home oxygen cost. Department code: ATX*, QC3*, QC4*.

OSURGIMP – Surgery Implant cost. Department code: S36*

Please note that '*' denotes that the fourth character in the Department Code may take any value. This last character may be used by a site to distinguish separate campuses or satellite clinics. .

4.6 Outpatient Utilization Units, Diagnosis, and Treatment

The national extract includes basic information on the quantity of health services utilized by patients during their encounter. Starting in FY00, some diagnostic and treatment data were added. These variables are summarized in Table 4.7.

Table 4.7 Utilization and Diagnostic Variables in Outpatient Extract FY98-FY00

Category	Variable Name	Description	Year Included
Utilization by department			
Laboratory	DLAB_UNT	Number of laboratory tests	FY98 – FY00
Pharmacy	DPHA_UNT	Number of encounters to pharmacy clinic	
Radiology	DRAD_UNT	Number of X-rays	
Surgery	DSUR_UNT	Number of encounters to surgical clinic	
All Other	DAO_UNT	Primary encounters (No-Credit pairs)	
Treatment and diagnosis			
Treatment	PRIMCPT4	Primary CPT codes	FY00
Diagnosis	PRIMDX	Primary Diagnosis	

The unit for each cost category is defined differently, as follows:

Laboratory – This is the number of tests in laboratory clinic. tests for which there are costs reported in Laboratory DCM departments.

Pharmacy – This is the number of encounters to pharmacy clinic. This is the number of days for which there are costs reported in Pharmacy DCM departments. **Please note that this is the number of days that medications were received, not the number of prescriptions.** The number of drugs and unit of drugs are not included in the national extracts. However, these data are available in the local DSS database.

Radiology – This is the number of X-rays in the radiology clinic. radiological procedures in the Diagnostic Radiology and Nuclear Medicine.

Surgery – This is the number of encounters to outpatient surgical clinic days for which there are costs reported in Operating Room DCM departments. Please note that for multiple visits in an operating room on a single day, only one day is counted.

All Others – This is the number of primary encounters, days during which at least one other service was received.

Primary procedure – This is the first CPT code in the NPCD outpatient file.

Primary diagnosis – This should be the same as the primary diagnosis in the NPCD OPC file and in VISTA.

4.7 Other Outpatient Variables

Table 4.8. Other Variables in Outpatient Extract

Description	Variable Name	Year Included
Medical Center Station Number (3 digit)	STA3N	FY98 – FY00
Medical Center Division (2 digit suffix)	SUFFIX	
Clinic Stop (Character)	CLSTOP	
Clinic Stop (Numeric)	CLSNUM	
Clinic Stop Credit Pair	CR_PAIR	
Fiscal Year	FY	
Fiscal Period (Month)	FP	
Date of Encounter	VIZDAY	
All Encounter Flags	ENCFLAG	
Primary Care Provider	PCP_DSS*	
Primary Care Provider Type	PCPT_DSS*	
Provider Identification	PID_DSS*	
Provider Type	PIDT_DSS*	
Number of Clinic Stops	STOPS	
Scrambled Social Security Number	SCRSSN	
Network	VISN	
Age	AGE	FY00
Sex	SEX	
Associate Primary Care Provider	A_PCP	
Associate Primary Care Provider Type	A_PCPTYP	
NPCD Provider ID	NPCD_PID	
Aggregate Absence Days	AGGABS	

*Variables were renamed in FY1999. In the FY98 file, PCP=Primary Care Provider; PCPTYP=PCP Type; PROVID=Provider ID; and PROVTYP=Provider Type.

Medical Center Station Number (3 digits). This is the standard 3-digit number used to identify VA medical centers.

DSS Division (3-digit suffix). This is a 3-digit code used to identify division within medical center. Some analysts have noted that when certain ancillary services are used, VA may use code for the parent station even though the care is provided at a satellite facility.

Clinic Stop (Character). This is the DSS clinic stop. Note that there are some non-standard codes used, including IVP, ASI, and 0 (zero). Note that some records are assigned a "pseudo code" for this variable. A pseudo-code has been used any time the NPCD flag="N".

Clinic Stop (Numeric). This is the DSS clinic stop. Since it is a numeric variable, the letter codes do not appear. These codes are otherwise identical with the character DSS codes. Some records have this code set to missing in FY98 or zero in FY99. A document that lists clinic stops made be found at http://www.herc.research.med.va.gov/FAQ_F13.htm.

Clinic Stop Credit Pair. This is a modifier to the clinic stop code.

Fiscal Year. Four digits representing the fiscal year, e.g., 1997-1998 fiscal year is denoted as 1998.

Fiscal Period (Month). This variable takes on an integer value from 1 to 12. It represents the number of the month in the fiscal year. Because the federal fiscal year is from October 1 to September 30; October is month 1, November is month 2, etc.

Date of Encounter. Date of the encounter in SAS date format.

Primary Care Provider. A code indicating the patient's primary care provider. This code identifies the provider to whom the patient is assigned. *Note that this variable name changed starting in FY99*.

All Encounter Flags. This character string gives the seven encounter flags in the order presented in Table 4. For example, it takes the value "YNNNNNN" if the NPCD flag is set to "Yes."

Provider Identification. A code indicating the provider for an individual visit. For pharmacy encounters, this code indicates the provider who wrote prescription. For clinical encounters, this code identifies the provider with whom the appointment was scheduled (including no-show records). *Note that this variable name changed starting in FY99.*

Provider Type. A code indicating the provider type for the care provider in an individual visit. *Note that this variable name changed starting in FY99.*

Primary Care Provider Type. A code indicating the provider type for the patient's primary care provider. *Note that this variable name changed starting in FY99.*

Number of Clinic Stops. This variable has a value of "1" for each record. It was created for counting the number of records (stops) at each level (e.g., running a SAS Proc Summary by facility).

Scrambled Social Security Number. Unique patient identifier. Chapter 2 explains how to decode the encrypted number using a file. Special permission is required to do this.

Network. Unique number for the network (VISN) in which the medical center providing this care is located.

Associate Primary Care Provider. A code indicating the patient's associate primary care provider.

Associate Primary Care Provider Type. A code indicating provider type for the associate provider who provides care during a visit.

NPCD Provider ID. A code that identifies the provider in the National Patient Care Database.

Aggregate Absence Days. This variable has no meaning for outpatient visits. It should have missing values for all the outpatient records.

Chapter Summary

The outpatient DSS National Data Extract files are described. Changes in files that were made between 1998 and 2000 fiscal year are noted. File names are provided. The files include indicator variables that flag the source of the cost data. The names and contents cost sub-totals variables are provided. Additional variables describe characteristics of the patient, the date of service, the provider, and the location of care. A table indicates the number of records in the data set at each medical center.

Chapter 5. Inpatient Discharge Extracts

5.1 Discharge File

The discharge extract file provides one record for each hospital stay that ended during the fiscal year. It includes the cost of utilization provided in earlier fiscal years. If the stay began before the DSS system was implemented at this site, utilization data will be incomplete, and cost estimates will be inaccurate. The cost of care provided in prior fiscal years is estimated using the Intermediate Product costs estimated for the same fiscal year as the file. The locations and number of records of the discharge files from FY98 through FY00 are listed in Table 5.1.

Table 5.1 NDE Discharge Files and Number of Records FY98-FY00

Year	Location	No. of Records
FY98	RMTPRD.S654HAW.MED.SAS.DSS.FY98.DISCH	678,458
FY99	RMTPRD.MED.DSS.SAS.FY99.DISCH	712,668
FY00	RMTPRD.MED.DSS.SAS.FY00.DISCH	696,603

5.2 Facilities in Inpatient Discharge Extracts

Facilities in each of the inpatient discharge extracts from FY98 through FY00 are listed in Table 5.2. Similar to the outpatient extracts, some facilities did not have complete records and some were integrated. Please see Table 2 for the details about facility integration.

Table 5.2 Facilities, Number of Records, and the Maximum Fiscal Period (Months) in Discharge Extracts, FY98 – FY00

STA3N	FY98 (678,458)		FY99 (712,668)		FY00 (696,603)	
	No. of Records	Max FP	No. of Records	Max FP	No. of Records	Max FP
402	2,944	12	2,767	12	2,394	12
405	2,295	12	2,891	12	2,818	12
436	1,548	9	2,888	12	2,696	12
437	2,720	12	2,755	12	2,744	12
438	2,556	12	2,948	12	2,715	12
442	1,033	12	1,325	12	1,364	12
452	1,871	12	2,510	12	2,526	12
459	548	12	708	12	701	12
460	2,139	12	2,664	12	2,748	12
**463	204	12	11	2	-	-
*500	4,486	12	4,491	12	3,053	9
501	6,427	12	7,632	12	7,077	12
502	2,289	12	2,825	12	2,834	12
503	1,694	12	1,854	12	1,552	12
504	3,230	12	3,077	12	2,970	12
506	4,922	12	4,976	12	4,676	12
508	6,040	12	8,303	12	7,966	12
509	6,172	12	7,349	12	7,165	12
512	9,718	12	9,643	12	9,163	12
*514	2,028	12	2,698	12	2,022	9
515	4,351	12	3,813	12	3,876	12
516	9,057	12	9,101	12	9,399	12
517	1,920	12	2,048	12	2,441	12
518	1,983	12	1,817	12	1,685	12
519	1,818	12	1,794	12	1,829	12
520	5,494	12	5,267	12	4,896	12
521	4,092	12	4,464	12	4,694	12
523	7,303	11	10,073	12	13,583	12
*525	6,587	12	4,222	9	-	-
526	4,561	12	4,695	12	4,792	12
*527	7,009	12	6,574	12	-	-
528	5,755	12	6,179	12	11,335	12
529	1,194	12	1,281	12	1,268	12
531	2,973	12	3,593	12	3,746	12
*532	2,351	12	1,725	12	-	-
534	4,038	12	4,107	12	3,915	12
537	10,977	12	12,173	12	11,810	12
538	4,758	12	4,651	12	4,525	12
539	5,769	12	5,673	12	5,617	12
540	2,693	12	2,681	12	2,489	12
541	9,173	12	8,959	12	8,979	12
542	3,541	12	3,808	12	3,497	12
543	4,018	12	6,389	12	5,363	12
544	3,955	12	5,712	12	5,041	12
546	7,571	12	6,398	12	5,587	12
548	3,943	12	4,917	12	5,174	12
549	9,959	12	10,420	12	12,535	12
550	4,249	12	4,807	12	4,293	12

Table 5.2. (Cont.) **Facilities, Number of Records, and the Maximum Fiscal Period (Months) in Discharge Extracts, FY98 – FY00**

STA3N	FY98		FY99		FY00	
	No. of Records	Max FP	No. of Records	Max FP	No. of Records	Max FP
552	5,145	12	5,689	12	5,944	12
553	4,852	12	5,494	12	5,784	12
554	5,834	12	6,824	12	6,574	12
*555	4,071	12	4,277	12	3,292	9
556	3,716	12	3,834	12	3,887	12
557	2,562	12	3,091	12	2,638	12
558	6,529	12	5,952	12	6,004	12
561	6,542	12	6,975	12	6,112	12
562	1,319	12	1,871	12	1,917	12
564	2,589	12	3,299	12	3,209	12
565	3,668	12	3,536	12	3,535	12
567	185	12	64	12	45	12
568	3,221	12	3,889	12	3,843	12
570	3,762	12	3,625	12	3,596	12
573	6,059	12	10,542	12	10,632	12
575	1,471	12	1,956	12	1,730	12
578	9,540	12	9,442	12	8,433	12
580	11,662	12	13,607	12	12,718	12
581	3,313	12	3,511	12	3,647	12
583	6,125	12	6,489	12	6,586	12
584	3,826	12	3,659	12	3,834	12
585	1,246	12	1,552	12	1,755	12
586	5,737	12	5,358	12	5,120	12
589	5,405	12	6,334	12	6,042	12
590	5,004	12	4,765	12	4,863	12
593	1,993	12	2,282	12	2,301	12
*594	3,807	12	-	-	-	-
595	3,236	12	2,721	12	2,483	12
596	6,172	12	6,137	12	5,713	12
*597	1,698	12	594	12	22	1
598	9,121	12	11,523	12	11,199	12
600	6,790	12	6,791	12	7,106	12
603	4,903	12	6,229	12	6,028	12
605	5,234	12	6,146	12	6,061	12
607	3,551	12	3,955	12	3,948	12
608	1,778	12	1,541	12	1,113	12
609	2,733	12	3,900	12	4,573	12
610	3,052	12	3,127	12	3,421	12
612	2,198	12	1,608	12	2,296	12
613	4,326	12	4,973	12	4,852	12
614	8,167	12	8,136	12	7,759	12
*617	60	9	-	-	-	-
618	9,771	12	10,612	12	10,158	12
619	4,533	12	4,204	12	3,926	12
620	4,051	12	3,196	12	3,338	12
621	6,074	12	6,710	12	7,029	12
622	3,496	12	3,905	12	3,762	12
623	2,394	12	2,355	12	2,402	12
626	6,190	12	6,020	12	6,272	12

Table 5.2 (Cont.) **Facilities, Number of Records, and the Maximum Fiscal Period (Months) in Discharge Extracts, FY98 – FY00**

STA3N	FY98		FY99		FY00	
	No. of Records	Max FP	No. of Records	Max FP	No. of Records	Max FP
629	5,023	12	5,394	12	5,728	12
630	5,413	12	5,732	12	11,517	12
631	2,310	12	1,641	12	1,363	12
632	4,885	12	4,578	12	4,515	12
635	7,055	12	6,541	12	6,434	12
636	3,156	12	4,262	12	5,393	12
637	3,948	12	4,276	12	4,370	12
640	10,167	12	10,856	12	10,149	12
642	5,461	12	5,682	12	4,902	12
644	9,507	12	9,134	12	8,896	12
646	8,874	12	9,292	12	8,406	12
647	1,137	12	1,629	12	1,883	12
648	9,117	12	9,086	12	9,028	12
649	1,905	12	1,929	12	2,064	12
650	3,089	12	3,032	12	2,861	12
652	8,147	12	7,715	12	7,527	12
653	3,188	12	3,285	12	2,838	12
654	2,948	12	3,229	12	2,933	12
655	1,530	12	2,007	12	1,825	12
656	3,138	12	3,159	12	3,005	12
657	8,817	12	8,163	12	7,657	12
658	6,033	12	6,696	12	5,833	12
659	3,259	12	3,009	12	2,964	12
660	5,522	12	6,480	12	6,062	12
662	5,229	12	5,094	12	5,637	12
663	11,328	12	11,212	12	10,208	12
664	6,287	12	6,466	12	6,397	12
*665	121	12	-	-	-	-
666	1,988	12	1,315	12	1,230	12
667	4,216	12	4,426	12	5,056	12
668	1,750	12	1,930	12	2,023	12
670	3,383	12	3,655	12	1,791	6
671	11,221	12	12,456	12	12,273	12
672	8,194	12	11,131	12	11,156	12
673	9,502	12	10,943	12	10,788	12
674	8,242	12	8,365	12	7,752	12
676	1,355	12	1,443	12	1,228	12
677	6,325	12	6,539	12	6,769	12
678	6,168	12	7,248	12	7,907	12
679	1,928	12	1,977	12	1,599	12
*686	1,038	3	-	-	-	-
687	1,444	12	1,415	12	1,400	12
688	6,278	12	7,236	12	7,373	12
689	4,961	12	4,674	12	4,700	12
691	18,752	12	11,496	12	11,500	12
692	-	-	560	12	935	12
693	4,059	12	4,331	12	3,813	12
695	6,393	12	7,993	12	7,860	12

***Integrated facilities (see Table 3.2).**
****VA Alaska Health Care System**

5.3 Cost Variables in Inpatient Discharge File

Both the outpatient file and inpatient files report costs using the same groupings of departments. The inpatient discharge file has one additional category: nursing care. "Nursing care" represents the cost of nursing departments for inpatient stays. This is the cost of nurses staffing the hospital wards. The cost variables in the inpatient discharge extract are listed in Table 5.3. These cost variables are described in detail in Chapter 3. Nursing costs are added for inpatient care.

Table 5.3. Cost Variables in the Inpatient Discharge File, FY98-FY00

Cost Category	Fixed Direct	Variable Direct	Indirect Cost	Total Cost	Year Included
Laboratory	DLAB_FD	DLAB_VD	DLAB_FI	DLAB_TOT	FY98 - FY00
Pharmacy	DPHA_FD	DPHA_VD	DPHA_FI	DPHA_TOT	
Radiology	DRAD_FD	DRAD_VD	DRAD_FI	DRAD_TOT	
Surgery	DSUR_FD	DSUR_VD	DSUR_FI	DSUR_TOT	
Nursing	DNUR_FD	DNUR_VD	DNUR_FI	DNUR_TOT	
All Other	DAO_FD	DAO_VD	DAO_FI	DAO_TOT	
Total				DCST_TOT	
Selected Cost					
Variable Pharmacy Supply		DPHA_VS			FY98 – FY00
Variable Labor Type 4					FY00
Surgery		DSUR_VL4			
Radiology		DRAD_VL4			
All Other		DAO_VL4			
Variable Labor Type 5					
Surgery		DSUR_VL5			
Radiology		DRAD_VL5			
All Other		DAO_VL5			
Prosthetics					
Labor		DPROLBR			
Supply		DPROSUPL			
Home Oxygen		DHOMEOX			
Surgical Implant		DSURGIMP			

5.4 Utilization and Diagnosis Variables

Utilization and diagnosis variables are listed in Table 5.4. Nursing utilization units are reported in the inpatient discharge file. Also, admitting and discharge DRGs as well as four diagnoses have been included in these variables since FY00.

Table 5.4. Utilization and Diagnosis Variables in Inpatient Discharge Extract

Category	Variable Name	Description	Year Included
Utilization by department			
Laboratory	DLAB_UNT	Number of laboratory tests	FY98 – FY00
Pharmacy	DPHA_UNT	Pharmacy days	
Radiology	DRAD_UNT	Number of X-rays	
Surgery	DSUR_UNT	Days in operating room	
Nursing	DNUR_UNT	Bed days of care	
All Other	DAO_UNT	Bed days of care	
Treatment and diagnosis			
DRGs	ADMITDRG	Admitting DRG	FY00
	DRG	Discharge DRG	
Diagnosis	ADMITDX	Admitting diagnosis	
	DXPRIME	Primary diagnosis	
	DXLSF	Diagnosis for the full length of stay	
	PRINDX	Principal diagnosis	

Unit variables for inpatient care are specified below.
Laboratory – This is the number of tests for which there are costs reported in Laboratory DCM departments.

Pharmacy – This is the number of days for which there are costs reported in Pharmacy DCM departments. **Please note that this is the number of days that medications were received, *not* the number of prescriptions.** The number of drugs and unit of drugs are not included in the national extracts. However, these data are available in the local DSS database.

Radiology – This is the number of radiological procedures in the Diagnostic Radiology and Nuclear Medicine department.

Surgery – This is the number of days for which there are costs reported in Operating Room DCM departments. Please note that for multiple visits in an operating room on a single day, only one day is counted.

All Others – This is the number of days during which at least one other service was received.

DNUR_UNT – Number of days for which there are costs reported in Ward DCM departments. Pass days and Unauthorized Absence days may or may not be included, depending on the practice on the individual ward.

ADMITDRG – Diagnostic Related Group (DRG) at admission. This variable was added in FY00. In FY00, 19% of the discharges have a missing value in this field.

DRG – DRG for the discharge bedsection. This variable was added in FY00. Ten percent (10%) of the records for FY00 have a missing value for this field.

ADMITDX – Admitting diagnosis. This variable is obtained from the DSS database and was added in FY00. Four percent (4%) of the records in FY00 have a missing value for this field.

DXPRIME – Primary diagnosis. This variable is obtained from the DSS database and was added in FY00. Eleven percent of records in FY00 have a missing value for this field. It should be the same as the primary diagnosis (DXLSF) variable in the Patient Treatment File (PTF). In the FY00 national extract, DXPRIME and DXLSF have the same value in 96% of the discharges.

DXLSF – Diagnosis for the full length of stay. This variable should be the same as DXLSF in the PTF, and is the same as the primary diagnosis in the PTF for 96% of the discharges.

PRINDX – Principal diagnosis. This variable is from the PTF and has appeared since FY00. Please note that the Principal Diagnosis is the reason for admission while the Primary Diagnosis represents the major part of the patient's full length of stay. In practice, however, the ICD codes recorded for the principal diagnosis (PRINDX) are usually the same as those for the primary diagnosis (DXPRIME or DXLSF). In the FY00 discharge extract, the value of PRINDX is the same as DXLSF in 94% of the records, and the same as DXPRIME in 99% of the records (after excluding about 10% of missing values).

5.5 Other Variables in Inpatient Discharge Extract

Other variables in the inpatient discharge extract are listed in Table 5.5.

Table 5.5 Other Variables in Inpatient Discharge Extract

Description	Variable Name	Year Included
Network	VISN	FY98 – FY00
Medical Center Station Number (3 digits)	STA3N	
Discharge Substation Number (6 digits)	STA6A	
DSS Division (3-digit suffix)	SUFFIX	
Fiscal Year	FY	
Fiscal Period (month)	FP	
Admitting Date	ADMITDAY	
Discharge Date	DISDAY	
Primary Care Provider	PCP	
Scrambled Social Security Number	SCRSSN	
Age	AGE	
Date of birth	BORNDAY	
Sex	SEX	
Length of stay	DAYS	
Length of stay in the current fiscal year	FYDAYS	
Discharge bedsection	DBEDSECT	
Primary Care Provider Type	PCPTYP	FY00
Associate Primary Care Provider	A_PCP	
Associate Primary Care Provider Type	A_PCPTYP	
Age group	AG8R	
Aggregate Absence Days	AGGABS	
Extract date	EXTDTE	

Network. Unique number for the network (VISN) in which the medical center providing this care is located.

Medical Center Station Number (3 digits). This is the standard 3-digit number used to identify VA medical centers.

Discharge Substation (6 digits). The discharge substation is the same as that in the PTF file.

DSS Division (3 characters). This is a 3-digit code—often letters—used to identify divisions within medical centers.

Fiscal Year. Four digits representing the fiscal year. The fiscal year beginning October 1997 and ending September 1998 is denoted as 1998.

Fiscal Period (Month). Integer from 1 to 12, representing the number of the month in the fiscal year. Since the federal fiscal year funds from October 1 to September 30, October is month 1, November is month 2, etc.

Admission Date. The date the patient was admitted to the hospital, in SAS date format.

Discharge Date. The date the patient was discharged from the hospital, in SAS date format.

Primary Care Provider. A code indicating the patient's primary care provider.

Scrambled Social Security Number. Unique patient identifier.

Age in Years. Patient age at discharge. This variable is from the PTF file.

Date of Birth. Patient birth date.

Gender. This variable is obtained from the PTF.

Length of stay. Number of days beginning with admission and ending with discharge.

Length of stay in current fiscal year. This is the number of days between admission and discharge that occurred during the current fiscal year. If the stay began before the beginning of the fiscal year, it is the number of days between discharge and the beginning of the fiscal year. If the stay is not yet over, it is the number of days between admission and the date the report was run, or September 30 if this is the final report for the fiscal year.

Discharge Bedsection. The treating specialty (bedsection) code for the last segment of stay. This variable is from the PTF.

Primary Care Provider Type. This code identifies the type of PCP.

Associate Primary Care Provider. This information identifies the associate PCP (Resident PCP-Extender)

Associate Primary Care Provider Type. This identifies the type of the associate PCP.

Age group (8 groups). This variable classifies patients into 8 age groups. Age at discharge is used for the grouping. The 8 groups are:

- Under 25
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75-84
- 85+.

This variable has numeric value from 1 through 8. It is extracted from the Patient Treatment file (Variable: AGE8R). The label is automatically generated from the SAS format at Austin.

Aggregate Absence Days. Patients may be authorized to leave the facility for a short time period during their stays. Authorized absence days are called pass days. Most pass days are given to nursing home, long-term psychiatric and domiciliary patients. There are also unauthorized absence days. This variable is the total number of days absent during the entire stay; both pass days and unauthorized absence days.

Extract Date. The date when the file was extracted.

Chapter Summary

DSS inpatient discharge National Data Extract (NDE) files are described. These files include the cost of hospital stays that ended during the fiscal year. This chapter provides the names of the files, with tables of the number of records for each medical center, and an indication of sites where data are incomplete. Cost variables are described, including variables giving the sub-total of costs in groups of departments. Utilization variables identify the Diagnosis Related Group, the primary diagnosis, and report units provided of certain services. Additional variables describe patient characteristics, the length of stay, admission date, discharge date, and the medical center where care was provided.

Chapter 6. Inpatient Treating Specialty File

6.1 Treating Specialty File

The treating specialty file includes one to several records for each hospital stay. Each stay is divided into segments based on the month and treating specialty of the provider responsible for each part of the stay. The treating specialty is ordinarily associated with a location, such as a medical care or surgical ward, or a long-term care unit. It is also called a bedsection. The treating specialty records are organized by fiscal period (month). If a bedsection stay crosses multiple fiscal periods (months), the treating specialty file will contain multiple records for the same bedsection stay. Records belonging to the same bedsection stay can be linked by STA3N, SCRSSN, TRTIN, and TRTOUT, where TRTIN and TRTOUT are the bedsection admission and discharge dates.

The treating specialty file includes all care provided during that file's fiscal year. It does not include care that took place in prior fiscal years. As a result, this file contains partial information on stays that began before the start of the fiscal year or were not complete by its end.

- If a patient was admitted to the hospital prior to the beginning of the fiscal year, the cost of the care provided in the previous year is excluded from the data.

- If the patient has not yet been discharged, the file reports the costs incurred during the current fiscal year as of the date the report was run (or up to September 30, if this is the final report for the fiscal year).

Because the treating specialty file contains information only on that file's fiscal year, it will not be possible to find the cost-of-stay segments (bedsections) that occurred in prior fiscal years.

The treating specialty files contain data beginning from FY99. The file name, location, and records are listed in Table 6.1. Table 6.2 reports the number of records in the Treating Specialty File by facility for FY1999 and FY2000.

The treating specialty file includes the cost of all inpatient care that was provided during the fiscal year. The discharge file includes the cost of stays that ended during the fiscal year. The care reported in these files overlaps, but each file includes cost not included in the other.

The treating specialty file includes the cost of stays that were not yet over by the end of the fiscal year. The discharge file excludes these costs. The discharge file includes the total cost of stays that began before the beginning of the fiscal year. The treating specialty file includes only part of their cost – the cost that was incurred since the beginning of the fiscal year.

VA provides long-term care, and some patients have exceptionally long stays, of many years duration. Neither file reports the complete cost of stays that began before DSS was implemented at the site.

Table 6.1 NDE Treating Specialty Files and Number of Records FY99-FY00

Year	Location	No. of Records
FY99	RMTPRD.MED.DSS.SAS.FY99.TRT	1,356,259
FY00	RMTPRD.MED.DSS.SAS.FY00.TRT	1,302,834

6.2 Facilities in Inpatient Treating Specialty File

Facilities included in the inpatient treating specialty extract should be the same as facilities in the outpatient specialty extract. Table 6.2 summarizes facilities reported in the FY99 and FY00 treating specialty files; there are some differences in the completeness of the two files.

Table 6.2 Facilities and Number of Records in Treating Specialty File, FY99-FY00

STA3N	FY99		FY00	
	Number of records	Max FP	Number of records	Max FP
402	6,373	12	5,382	12
405	4,556	12	4,288	12
436	4,160	12	3,909	12
437	4,045	12	3,978	12
438	4,416	12	3,970	12
442	2,464	12	2,466	12
452	3,648	12	3,858	12
459	1,632	12	1,537	12
460	4,566	12	4,318	12
**463	52	2	12	12
*500	7,273	12	4,144	9
501	10,518	12	11,126	12
502	5,742	12	6,561	12
503	2,926	12	2,510	12
504	5,835	12	5,800	12
506	7,777	12	7,437	12
508	13,246	12	12,679	12
509	14,015	12	12,668	12
512	19,708	12	18,724	12
*514	6,949	12	2,239	9
515	8,959	12	8,295	12
516	16,861	12	16,065	12
517	3,499	12	3,902	12
518	7,475	12	6,991	12
519	3,414	12	3,330	12
520	10,480	12	11,566	12
521	7,179	12	7,584	12
523	16,899	12	24,905	12
*525	10,667	9	-	-
526	9,948	12	9,640	12
527	13,044	12	-	-
528	10,165	12	21,594	12
529	3,014	12	2,965	12
531	5,260	12	5,335	12
*532	4,772	12	-	-
534	6,737	12	6,192	12
537	20,563	12	19,691	12
538	9,504	12	9,187	12
539	11,191	12	10,047	12
540	4,233	12	4,064	12
541	19,283	12	18,609	12
542	10,720	12	10,008	12

Table 6.2 (Cont.) Facilities and Number of Records in Treating Specialty File, FY99-FY00

STA3N	FY99		FY00	
	Number of records	Max FP	Number of records	Max FP
543	8,972	12	7,559	12
544	10,355	12	9,019	12
546	13,839	12	11,304	12
548	8,334	12	8,747	12
549	24,505	12	25,193	12
550	12,008	12	10,629	12
552	13,753	12	13,376	12
553	9,254	12	9,402	12
554	11,935	12	11,286	12
*555	9,806	12	7,177	9
556	11,118	12	11,076	12
557	7,351	12	6,807	12
558	10,751	12	10,358	12
561	18,596	12	15,979	12
562	2,955	12	2,971	12
564	3,833	12	4,525	12
565	6,006	12	6,010	12
567	2,635	12	2,095	12
568	8,126	12	7,844	12
570	5,266	12	4,901	12
573	18,826	12	18,160	12
575	2,859	12	2,606	12
578	17,888	12	15,876	12
580	18,038	12	21,643	12
581	5,638	12	5,310	12
583	9,884	12	9,790	12
584	5,869	12	5,996	12
585	2,527	12	2,855	12
586	9,061	12	10,142	12
589	10,528	12	9,506	12
590	10,915	12	10,465	12
593	3,116	12	3,102	12
595	6,413	12	6,174	12
596	11,319	12	9,062	12
*597	1,590	12	654	6
598	16,746	12	20,564	12
600	13,171	12	13,008	12
603	9,288	12	8,548	12
605	10,013	12	9,672	12
607	6,823	12	6,689	12
608	3,725	12	2,692	12
609	5,688	12	6,391	12

Table 6.2 (Cont.) Facilities and Number of Records in Treating Specialty File, FY99-FY00

STA3N	FY99		FY00	
	Number of records	Max FP	Number of records	Max FP
610	7,820	12	7,601	12
612	3,279	12	4,039	12
613	12,067	12	11,844	12
614	14,087	12	13,203	12
618	18,282	12	17,087	12
619	9,243	12	8,365	12
620	10,462	12	9,532	12
621	15,672	12	14,128	12
622	10,583	12	10,242	12
623	2,852	12	3,477	12
626	9,471	12	9,359	12
629	6,972	12	9,233	12
630	10,393	12	22,904	12
631	4,251	12	3,765	12
632	12,215	12	11,312	12
635	8,151	12	9,994	12
636	7,420	12	10,037	12
637	9,375	12	6,936	12
640	23,768	12	21,704	12
642	10,879	12	10,119	12
644	14,931	12	13,937	12
646	19,339	12	18,133	12
647	2,476	12	2,534	12
648	15,300	12	14,744	12
649	4,892	12	4,894	12
650	4,408	12	4,196	12
652	15,422	12	14,137	12
653	5,535	12	4,955	12
654	5,317	12	3,637	12
655	3,787	12	3,431	12
656	7,468	12	7,332	12
657	15,080	12	13,037	12
658	12,048	12	11,107	12
659	9,640	12	9,204	12
660	10,098	12	9,357	12
662	9,297	12	9,424	12
663	19,712	12	17,989	12
664	10,179	12	10,443	12
666	3,475	12	3,251	12
667	5,343	12	7,141	12
668	2,890	12	3,040	12
670	7,449	12	2,630	6

Table 6.2 (Cont.) Facilities and Number of Records in Treating Specialty File, FY99-FY00

STA3N	FY99		FY00	
	Number of records	Max FP	Number of records	Max FP
671	21,251	12	20,740	12
672	18,993	12	19,012	12
673	19,414	12	20,745	12
674	22,557	12	20,436	12
676	4,631	12	4,248	12
677	15,564	12	15,266	12
678	11,341	12	11,811	12
679	6,047	12	5,631	12
687	2,300	12	2,149	12
688	12,108	12	11,789	12
689	7,729	12	7,416	12
691	24,572	12	24,022	12
692	10,320	12	9,502	12
693	8,322	12	7,468	12
695	16,691	12	16,426	12

*Integrated facilities (See Table 3.2).

6.3 Cost Variables in Inpatient Extracts

Costs in the treating specialty file are reported by the same groups of departments that are used in the discharge file. The cost variables in the inpatient treating specialty file are listed in Table 6.3. All of these variables are described in the Outpatient Chapter and the Inpatient Discharge Chapter.

Table 6.3. Cost Variables in Inpatient Treating Specialty Extract

Cost Category	Fixed Direct	Variable Direct	Indirect Cost	Total Cost	Year Included
Laboratory	TLAB_FD	TLAB_VD	TLAB_FI	TLAB_TOT	FY99 – FY00
Pharmacy	TPHA_FD	TPHA_VD	TPHA_FI	TPHA_TOT	
Radiology	TRAD_FD	TRAD_VD	TRAD_FI	TRAD_TOT	
Surgery	TSUR_FD	TSUR_VD	TSUR_FI	TSUR_TOT	
Nursing	TNUR_FD	TNUR_VD	TNUR_FI	TNUR_TOT	
All Other	TAO_FD	TAO_VD	TAO_FI	TAO_TOT	
Total				TCST_TOT	
Selected Cost					
Variable Pharmacy Supply		TPHA_VS			FY99 – FY00
VL4[1] Surgery		TSUR_VL4			
VL4[1] Radiology		TRAD_VL4			
VL4[1] All Other		TAO_VL4			
VL4[2] Surgery		TSUR_VL5			
VL4[2] Radiology		TRAD_VL5			
VL4[2] All Other		TAO_VL5			
Prosthetics Labor		TPROLBR			
Prosthetics Supply		TPROSUPL			
Home Oxygen		THOMEOX			
Surgical Implant		TSURGIMP			

1. VL4: Variable labor cost of employee providers, including physicians, dentists, and psychologists.

2. VL5: Variable labor of contract providers.

6.4 Utilization, Treatment, and Diagnosis Variables in Inpatient Treating Specialty Extract

The utilization variables in the treating specialty extract are the same as those in the discharge extract. The treating specialty extract contains two variables with diagnoses: admitting DRG and admitting diagnosis, and a variable identifying the treating specialty (see Table 6.4). Please note that the admitting DRG is not the bedsection admitting DRG. It is the admitting DRG for the entire inpatient stay, which is the same as the admitting DRG in the discharge file for the same inpatient stay. Similarly, the admitting diagnosis is the same as that in the discharge file for entire inpatient stay.

Table 6.4. Utilization and Diagnosis Variables in Inpatient Extract

Category	Variable Name	Description	Year Included
Utilization by department			
Laboratory	TLAB_UNT	Number of laboratory tests	FY98
Pharmacy	TPHA_UNT	Pharmacy days	
Radiology	TRAD_UNT	Number of X-rays	
Surgery	TSUR_UNT	Days in operating room	
Nursing	TNUR_UNT	Bed days of care	
All Other	TAO_UNT	Bed days of care	
Treatment and diagnosis			
DRGs	ADMITDRG	Admitting DRG	FY00
Diagnosis	ADMITDX	Admitting diagnosis	
Treatment	TRTSP	Treating specialty code	
	TRTSP_C	Treating specialty label	

ADMITDRG. Admitting DRG for the entire inpatient stay. It is the same variable in the discharge record.

ADMITDX. Admitting diagnosis for the entire inpatient stay. It is the same variable in the discharge record.

TRTSP. Treating specialty. This numeric variable is from the PTF bedsection file.

TRTSP_C. Treating specialty label. This is a character variable that labels the treating specialty code. It is from the PTF bedsection file.

6.5 Other Variables in Inpatient Treating Specialty Extract

Other variables in the inpatient treating specialty file are listed in Table 6.5. These variables are the same for FY99 and FY00 except that the variable for primary care providers, "PCP" was renamed as "PCP_DSS" in FY00.

Table 6.5. Other Variables in Inpatient Discharge Extract

Description	Variable Name	Year Included
Network	VISN	FY99 – FY00
Medical Center Station Number (3 digit)	STA3N	
DSS Station Suffix (3 digit suffix)	SUFFIX	
Fiscal Year	FY	
Fiscal Period (Month)	FP	
Admitting date of the stay	ADMITDAY	
Bedsection admitting Date	TRTIN	
Bedsection discharge Date	TRTOUT	
Primary Care Provider	PCP (PCP_DSS for FY00)	
Primary Care Provider Type	PCPTYP	
Associate Primary Care Provider	A_PCP	
Associate Primary Care Provider Type	A_PCPTYP	
Scrambled Social Security Number	SCRSSN	
Aggregate Absence Days	AGGABS	
Census patient	CENSUS	
Extract date	EXTDTE	

Network. Unique identifier for the network (VISN) in which the medical center providing this care is located.

Medical Center Station Number (3 digits). This is the standard 3-digit number used to identify VA medical centers.

DSS Station Suffix (3 characters). This is a 3-digit code used to identify divisions within medical centers.

Fiscal Year. Four digits representing the fiscal year. For example, the fiscal year beginning October 1, 1997 and ending September 30, 1998 is denoted as 1998.

Fiscal Period (Month). Integer from 1 to 12, representing the number of the month in the fiscal year. Because the federal fiscal year is from October 1 to September 30, October is month 1; November is month 2, etc.

Admission Date. The date the patient was admitted to the hospital, in SAS date format.

Bedsection Admitting Date. The date the patient was admitted or transferred to the treating specialty bedsection.

Bedsection Discharge Date. The date the patient was discharged or transferred from the treating specialty bedsection.

Primary Care Provider. A code indicating the patient's primary care provider.

Scrambled Social Security Number. Unique patient identifier.

Associate Primary Care Provider. This information identifies the associate PCP (Resident PCP-Extender)

Associate Primary Care Provider Type. This identifies the type of the associate PCP.

Aggregate Absence Days. This is the total number of days absent during the entire stay. This variable is the same as that in the discharge record.

Census Patient. Indicator that a patient was not discharged at the end of the fiscal year. This variable is coded as 'Y' or 'N'.

Extract Date. The date when the DSS was extracted to create a record.

Chapter Summary

DSS inpatient treating specialty National Data Extract files are described. These files have one to several records for each hospital stay. They include the cost of hospital care that took place during the fiscal year. They exclude cost from different fiscal years, even if they were part of hospital stay that took place during the current fiscal year. Stays are divided into separate records by the month in which care was given, and by the bedsection (the ward, also called the treating specialty) where care was obtained. This allows the analyst to distinguish costs incurred in a single stay when the patient moved between different bedsections, such as a patient who was moved from an acute medical ward to a long-term care unit. The names of files and numbers of records for each medical center are provided. Cost and utilization variables are described. Additional variables describe characteristics of the patient, provider, and stay.

Chapter 7. Merger of the NDE and the PTF Discharge Files

The National Data Extract discharge file includes DSS cost data for all inpatient stays that ended in the fiscal year. It does not replicate all of the fields characterizing the stay that appear in the main Patient Treatment Files such as diagnosis, procedures, and patient demographics. Most researchers will want to have complete information on hospital stays, including both the cost and the characteristics of the stay. This guide will show how to merge the two files. The merger also allows us to compare the two databases, and helps to validate the contents of the newer NDE database.

This chapter demonstrates how to merge the NDE discharge file with the PTF discharge files using the FY00 data from both databases. This analysis was conducted with the version of the FY00 NDE available in January, 2001.

7.1 NDE and PTF Discharge Files

Inpatient discharges in the DSS national extract are stored in a single file. The PTF database separates inpatient discharges into three groups: (1) the acute file (PM); (2) the Extended file (XM); and (3) the observation bed discharges (PMO). The total number of discharges recorded in each database is listed below:

1. FY2000 DSS NDE discharge file (N = 696,603)
2. PTF Main files:
    a. PM – Acute discharge file (N = 564,013)
    b. XM – Non-acute discharge file (N = 69,836)
    c. PMO – Observation discharge file (N = 67,393)

7.2 Method

The two databases were merged using the following four common variables:
SCRSSN – scrambled Social Security Number
STA3N – 3-digit numeric station number for VAMC
ADMITDAY – admission date
DISDAY – discharge date

Records of integrated facilities may cause problems with the merger. In the NDE discharge file, discharges from the legacy facility that occurred *before* the integrations were recorded under the legacy facility's old STA3N number. Discharges that occurred *after* the integrations were recorded under the legacy facility's *new* number –the primary facility's STA3N. However, this rule was not followed in the PTF files. In the PTF files, encounters occurred before and after a facility consolidation are all recorded under the new facility station number. Therefore, merging records of integrated stations requires an extra step to identify those records under different station numbers. The reason that the DSS NDE database kept the old station number for encounters occurring before the merge was to report the cost data correctly. For example, in Table 7.2a, three stations were merged into station 528. Station 500 and Station 514 were merged into Station 528 in July of 2000 and Station 670 was merged into station 528 in April of 2000. In DSS NDE, 2,350 stays occurred before July of 2000 were recorded for station 500; 639 stays were recorded under station 514; and 1,590 stays were recorded under station 670. In the PTF, however, all of the 4,579 stays were recorded under the new station 528.

7.3 Results

Matched records

The NDE discharge file contained 696,603 records. The three PTF Main files contained 701,244 records (excluding 9,635 discharges from community nursing homes, care that is not included in the DSS data). When the NDE and PTF Main files were merged using four variables (SCRSSN, STA3N, ADMITDAY, DISDAY), 684,210 records were matched (see Table 7.1).

Integrated facilities

An additional 10,127 records would have been matched if the variable STA3N had been dropped from the merge. Further investigation revealed that all of these records were from facilities that integrated during the fiscal year (see Table 7.2a, 7.2b, and 7.2c). Results in tables 7.2a, 7.2b, and 7.2c suggested that the DSS NDE discharge extract kept the *old* station number of the legacy facility for encounters occurring before the merge while the PTF database used the *new* station number for the entire fiscal year, including the encounters that occurred before the merger.

Table 7.1 Reconciliation of DSS NDE discharge file with PTF Main files (FY2000)

	DSS NDE (n=696,603)	PTF Main (n=701,244)		
		PM (n=564,013)	XM (n=69,836)	PMO (n=67,393)
Merge with all four variables	684,210	555,244	65,190	63,776
Additional merge with no STA3N	10,127	6,908	1,968	1,251
Total records merged (percentage)	694,337 (99.7%)	562,152 (99.7%)	67,158 (96.2%)	65,027 (96.5%)
Unmatched records	2,266	1,861	2,678	2,366

Table 7.2a. Facilities associated with records merged with different station number (PM vs. NDE)

Patient Main (PM)	DSS National Data Extract (NDE)		
4,579 (STA3N=528)	2,350 (STA3N=500) prior to 07/00	639 (STA3N=514) prior to 07/00	1,590 (STA3N=670) prior to 04/00
2,329 (STA3N=636)	2,329 (STA3N=555) prior to 07/00		

Table 7.2b. Facilities associated with records merged with different station number (XM vs. NDE)

Patient Main (PM)	DSS National Data Extract (NDE)		
1,128 (STA3N=528)	382 (STA3N=500) prior to 07/00	656 (STA3N=514) prior to 07/00	144 (STA3N=670) prior to 04/00
2,329 (STA3N=636)	764 (STA3N=555) prior to 07/00	22 (STA3N=597) prior to 02/00	

Table 7.2c. Facilities associated with records merged with different station number (PMO vs. NDE)

Patient Main (PM)	DSS National Data Extract (NDE)		
1,081 (STA3N=528)	312 (STA3N=500) prior to 07/00	715 (STA3N=514) prior to 07/00	54 (STA3N=670) prior to 04/00
170 (STA3N=636)	170 (STA3N=555) prior to 07/00		

7.3 Patterns of the non-matched discharge records

The non-matched records in each of the four files were further examined. Although the exact reason cannot be determined, the patterns suggest that these records failed to match due to errors in data entry at a small number of facilities. The patterns are summarized below.

Patterns of the non-matched records in the DSS NDE file

Among the 2,266 records existing only in the DSS NDE file, 79% had missing values in discharge bedsection codes and 63% of these records occurred in three stations: Oklahoma City (556), Long Beach California (503), and NCHC Martinez (338).

Patterns of the non-matched records in the PTF PM file

Among the 1,664 records existing only in the PTF PM file, 46% belong to four stations that were involved in facility integration. These four stations were Upstate New York (238), New York Harbor (183), Roseburg (171), and Wilkes Barre (178).

Patterns of the non-matched records in the PTF XM file

There were only 2,678 records in the PTF XM file. Most of the non-matched nursing home stays were admitted before the current fiscal year and the maximum length of stay was 13,322 days (> 36 years). The non-matched records also contained 56 records having discharges *on the day of admission* (*i.e.*, LOS=0). Because the DSS database did not have information for stays that began before DSS was implemented, those very long stays were not included in the discharge file.

Patterns of the non-matched records in the PTF PMO file

Two stations (Houston and Upstate N.Y.) accounted for 15% of the 2,366 non-matched observation discharges. Most of the 2,366 records were in three bedsections:

Medical observation	(67%)
Psychiatric observation	(17%)
Surgical observation	(15%)

Admissions and discharges occurring in the VA observation bedsections often cause problems. The DSS database does not count two admissions in a single day. Hence, if a person was admitted into an observation bed and was then transferred to an acute bedsection in a single day, the PTF database will contain a discharge from the observation bedsection *and* a new admission and discharge for the acute bedsection. The DSS database would only count one admission and one discharge for the acute bedsection, and would ignore the observation bedsection stay. Sometimes, the DSS program did not distinguish admission and discharge dates

of the observation stays with the following acute or non-acute stays. For example, if a patient was admitted in an observation bed and then was discharged on the same day and readmitted into a surgical bed, the DSS could record only a one-day stay in the surgical bed because it picked the observation bed discharge as the discharge record for the surgical bed stay. This error caused the DSS system to miss the number of days in the surgical bedsection following the first day. Although this did not happen every time, researchers should validate their data when observation stays are observed in their database. This problem should be fixed in FY02 data, though that data should still be validated.

Duplicated records

In the PTF main file there were 243 duplicated discharges based on SCRSSN, STA3N, ADMITDAY, and DISDAY (189 in PM, 9 in XM, and 45 in PMO). There were no duplicate records in the DSS discharge file.

Chapter Summary

Overall, the FY2000 DSS discharge file reconciled fairly well with the PTF main files.

- 99.7% of the DSS discharges matched with the PTF Main files
- 99.0% of the discharges in the PTF Main files matched with the DSS NDE discharge records. Non-matched records were often concentrated in a few facilities. The FY00 NDE discharge extract has some problems dealing with stays in observation bedsections.

It appeared that the PTF database used a different from the method that is used by the DSS NDE database to record the station number for integrated facilities during the fiscal year. To report costs, the DSS database kept the old facility station number for the records occurring before facilities mergers. The PTF files used the new station number for all the records during the fiscal year (before and after the facility merge) (see Tables 2a, 2b, and 2c).

Chapter 8. Merger of the NDE Treating Specialty file and PTF bedsection files

8.1 NDE Treating Specialty and PTF Bedsection Files

Clinical information for records in the NDE Treating Specialty file can be identified in the PTF Bedsection files. The NDE Treating Specialty extract is a single file while the PTF Bedsection records are stored in three files: (1) the Acute Bedsection file (PB); (2) the Non-acute (or "Extended") Bedsection file (XB); and (3) the Observation Bedsection file (PBO). File sizes are as follows:

1. FY2000 DSS NDE Treating Specialty file: N = 1,302,834
2. PTF bedsection files (N= 911,997):
    a. PB – Acute bedsection file: N = 762,483
    b. XB – Non-acute bedsection file: N = 82,094
    c. PBO – Observation bedsection file: N = 67,420

8.2 Method

Prior to merging NDE and PTF files, there were several steps taken to make them more similar in content. This section details these steps.

The NDE Treating Specialty file contains bedsection stays that were not discharged or transferred, known as Census stays. The PTF bedsection files do not include records of these Census stays. The command "Census=Y" was used to exclude Census stay records in the NDE Treating Specialty extract. There is a PTF Census file and it is possible to merge DSS Census records with it.

Next, monthly records in the treating specialty file were consolidated into one record for each unique bedsection stay. As discussed in Chapter 6, the NDE Treating Specialty extract contains cost information for each bedsection stay by fiscal period (month). If a bedsection stay lasts more than a single fiscal period, there will be multiple records for the same stay. These multiple records have the same values for five variables (SCRSSN, STA3N, TRTIN, TRTOUT, and TRTSP). The treating specialty file can be consolidated using these variables.

The DSS NDE Treating Specialty extract does not contain data from community nursing homes, and so community nursing home stays were excluded from the PTF XB file by eliminating records with "STATYP=42" (the variable STATYP is kept in the main PTF extended core file; thus the main and bedsection files were merged to identify which records to exclude).

The three data processing steps had the following impact on the number of observations:

NDE Treating Specialty extract (FY00):	1,302,834
Census Records:	-164,505
Consolidated multiple-record stays:	-246,320
NDE Treating Specialty file for the merger:	892,009
PTF Extended Bedsection file (FY00):	82,094
Community Nursing Homes:	- 9,877
PTF XB File for the merger:	72,217

The DSS NDE and PTF bedsection files were merged by the following five variables:

SCRSSN – scrambled Social Security Number
STA3N – 3-digit numeric station number of the VA facility
BSINDAY (PTF) and TRTIN (NDE) – admission date
BSOUTDAY (PTF) and TRTOUT (NDE) – discharge date
BEDSECN (PTF) and TRTSP (NDE) – bedsection number

Please note that three variables have different names in the two databases. We assumed that BSINDAY, BSOUTDAY, BEDSECN in the PTF files were the same as TRTIN, TRTOUT, and TRTSP in the NDE Treating Specialty file, respectively.

Table 8.1 PTF/NDE Equivalent Table

PTF FILES NAME		NDE FILE NAME
BSINDAY	=	TRTIN
BSOUTDAY	=	TRTOUT
BEDSENC	=	TRTSP

Before the merger, we also checked whether all the types of bedsections were included in both files. We found that the following three bedsections **only existed in the PTF file*:***

PB: Stroke (19 records) SUB AB STAR1, 11, 111 (90 records)
XB: Allergy (1 records)

8.3 Results

Matched Records

We merged the two files using the five variables listed above. For the non-matched records, we made an extra match without using STA3N to catch the missed records caused by facility integration. Nearly 30% of the records in each file were not matched. Results are summarized in Table 8.2.

Table 8.2 Reconciliation of DSS NDE Treating Specialty file with the three PTF bedsection files (FY2000)

	DSS NDE (n=892,009)	PTF Bedsection Files (n=911,595)		
		PB (n=762,166)	XB (n=72,187)	PBO (n=67,373)
Merge with all four variables	646,448	529,218	53,380	63,850
Additional merge with no STA3N	3,178	2,267	741	170
Total records merged (Percentage)	649,626 (72.8%)	531,485 (69.7%)	54,121 (75.0%)	64,020 (95.0%)
Non-matched records	242,383 (27.2%)	230,681 (30.3%)	18,066 (25.0%)	3,353 (5.0%)

Duplicate records

Some records in the PTF bedsection files had duplicate values of the five merging variables. All duplicate records were deleted, including 317 in the PB file, 30 in the XB file, and 47 in the PBO file.

8.4 Analysis

Patterns of the non-matched records in each file are summarized below. We also analyzed these records by releasing some matching restrictions.

Patterns of the non-matched records in the NDE Treating Specialty file

The 242,383 records that existed only in the NDE Treating Specialty file were concentrated in three bedsections:

Medical ICU: 23%
Surgical ICU: 13%
General Medical (acute): 21%

There were 6,217 records in the NDE treating specialty with missing values in BEDSECN. No station accounted for more than 3% of the non-matched records.

Patterns of the non-matched records in the PTF acute bedsection (PB) file

The patterns of non-matched records in the PB file were very similar with those in the NDE Treating Specialty file. First, these non-matched records were concentrated in three bedsections:

Medical ICU: 25%
Surgical ICU: 14%
General Medical (acute): 24%

Second, the non-matched records were not concentrated in any single station.

Patterns of the non-matched records in the PTF extended bedsection (XB) file

There were 18,066 records that existed only in the XB file. Most of those unmatched records were long-term stays (LOS > 365). It is not surprising the DSS excludes the cost of exceptionally long extended care stays. DSS was implemented relatively recently by VA; the system was not set up to estimate the cost of years-long stays that began before DSS was

implemented at a given site. It appears that records from these stays may sometimes be excluded altogether.

Patterns of the non-matched records in the PTF observation bedsection (PBO) file

The patterns of the 3,353 non-matched records in the PBO file were similar with those from the discharge file because most of the observation stays only occurred in a single bedsection. Two stations (Houston and Upstate N.Y.) accounted for 41% of these records:

Upstate New York:		1,184 (35.3%)
Houston:	1	88 (5.6%)

Most of the 2,366 records were in three bedsections:

Medical observation:		69.7%
Surgical observation:	1	8.4%
Psychiatric observation:		10.4%

Further analysis

Because there were similar numbers of non-matched records in the NDE and PTF files, the non-matched records in both files were compared using less restrictive criteria. In this analysis, stays that were one day long were dropped. The two files were first merged using scrambled Social Security Numbers, stations, bedsection numbers, and the bedsection admission date – the bedsection discharge date was ignored. With this relaxed criteria, 130,620 matches were found. The remaining records were matched using scrambled Social Security Numbers, bedsection number and the bedsection discharge dates – bedsection admission dates *were ignored*. Using this method, 12,067 additional matches were found.

Table 8.3 Patterns of non-matched bedsection records

	NDE	PTF
Non-matched bedsection stays	242,383	252,100
Single-day bedsection stays	67,511	2,860
Records merged without BSOUTDAY	130,628	
Records merged without BSINDAY	12,067	
Non-matched records excluding those above	32,177	106,545
--Percent of the total (NDE=892,009; PTF=911,595)	3.6%	12.8%

After the second merger, there were only 32,177 records in the NDE Treating Specialty file and only 106,545 records in the PTF bedsection files that did not have matches.

Most instances of non-matched records were apparently caused by a difference in bedsection admission and discharge dates reported in the PTF and NDE files. We examined the difference in bedsection admission and discharge dates between the two files. A large majority of the differences were due to bedsection segments that were one day longer in the PTF bedsection file than they were in the DSS treating specialty file. There were 181,053 PTF bedsection records that ended one day later than in the NDE Treating Specialty file record. Specifically, the transfer-out date in the PTF file (BSOUTDAY) was one day later than in the NDE (TRTOUT). These records had the same values for all other variables that defined the

bedsection stay, including SCRSSN, STA3N, BEDSECN, and the starting date of the segment. The starting day is BSINDAY in the PTF and TRTIN in the NDE. This finding implies that the difference in counting the bedsection discharge (or transfer) date is the major reason for such a large number of non-matched records.

Chapter Summary

The NDE and PTF databases were merged by the following five variables: scrambled Social Security Number, medical center, bedsection, bedsection admission date and bedsection discharge date.

The DSS NDE treating specialty file was merged with the PTF bedsection files. Users will want to merge the files, as the DSS file does not contain the detailed characteristics recorded in the PTF. The merger also represented a means of validating DSS data. To make the datasets comparable, records for patients not yet discharged were dropped from the NDE treating specialty file. Bedsection stays in the NDE represented by multiple records were subtotaled. Records of community nursing home stays were dropped from the PTF extended care file.

The reconciliation between the NDE Treating Specialty file and the PTF bedsection files was much less complete than that of the discharge files. About one-quarter of the records in each file could not be matched. The major reason for the inconsistency appeared to be associated with differences in the dates of bedsection admission and discharge**.**

Chapter 9. Merger of the NDE Outpatient File and the NPCD Outpatient Even File

The DSS NDE outpatient file contains information on the cost of VA outpatient encounters. Additional information about the encounters, including diagnosis, procedures, and patient characteristics are recorded in the SAS extracts of the VA outpatient National Patient Care Database (NPCD). We show how the databases can be merged. This process also allows for validation of the comparable data in the newer NDE database.

9.1 Sample of Outpatient Files

As noted in Chapter 4, the NDE Outpatient extract contains almost 100 million records (60 million clinical encounters plus 40 million pharmaceutical encounters). Because of its size, we reconciled a sample of the NDE Outpatient extract with the NPCD Outpatient procedure file (SC file).[1]

We first selected a sample using the last two digits of the scrambled Social Security Numbers, which led to a sample of 21,054 people. We then extracted all the outpatient records for the 21,054 people from both the NDE Outpatient extract and the NPCD SE file for FY00. The results were:

- 411,744 records in the FY2000 DSS NDE outpatient non-pharmacy file
- 445,321 records in the NPCD outpatient procedure file (SC)

9.2 Method

The DSS NDE and the outpatient NPCD do not share the same design. While their content overlaps, each file has records that are not contained in the other. The first step in comparing (and merging) the two files is to change the files so that they have a common design.

The DSS NDE outpatient file includes records for utilization that are not recorded in the outpatient NPCD file. These records are identified by encounter flag variables (described in chapter 4). This care includes dispensing of prosthetics devices, pharmaceuticals, hearing aids, eyeglasses, and other care listed in table 4.5. Among these types of care is "missed appointments." DSS assigns a cost to missed appointments, but they are not counted as utilization in NPCD. Records in the DSS NDE file that contain unique utilization not reported in the NPCD outpatient file are identified by having the NPCD flag variable set to "N." To render the DSS NDE file comparable to the NPCD outpatient file, the DSS data for the sample was restricted to only those visits that had the NPCD flag set to "Y."

The two databases also differ in the method used to define a record. The NPCD may have more than one record for a single patient visiting the same clinic stop on a given day. In the DSS NDE file, such care is represented as a single record. To render the NPCD file comparable

[1] It may be more reasonable to use the NPCD Outpatient event file (SE file) to reconcile with the NDE Outpatient file, because the SE file is a combination of the procedure and diagnosis files. We then compared the SC file with the SE file and found them to have nearly identical information on visits. The SC file had 316 fewer records than the SE file out of 63.6 million visits in FY2000. Hence, results reported in this Chapter should be similar to what would be obtained using the SE file.

to the DSS NDE, the NPCD sample was subtotaled so that all visits by a single patient to the same clinic stop on a given day were represented by a single record.

We used the following common variables to merge the two sample files:

SCRSSN – scrambled Social Security Number
STA3N – 3-digit numeric station number for VAMC
CL (NDE) and CLNUM (NPCD) – clinic stop code
VIZDAY – visit date

9.3 Results

Matched Records

After making the adjustments described above in both files, the NDE outpatient sample had 328,102 records and the NPCD outpatient procedure file had 368,415 records. Table 9.1 summarizes the outcome of the matching process.

Table 9.1. Reconciliation of DSS NDE outpatient file with the NPCD outpatient procedure file (FY2000)

	DSS NDE (n=328,102)	**NCPD (n = 368,415)**
Merge with all four variables	326,063	
Non-matched records	2,039 (0.6%)	42,352 (11.5%)

9.4 Analysis

We also examined patterns of the non-matched records in both files.

Patterns of the non-matched records in the NPCD Outpatient file

Among the 42,352 non-matched records in the NPCD file, more than 50% were for four types of services (six stop codes):

- Substance Abuse Individual (513) and Substance Abuse Group (560): 14.9%
- Laboratory (108): 13.9%
- Phone/Ancillary (147) and Phone Medicine (324): 12.8%
- Clinical Pharmacy (160): 5.7%

Note that the 5.7% of non-matched records corresponding to Clinical Pharmacy should be matched in the pharmacy records in the NDE Outpatient file.

We also found that two stations accounted for over 30% of these non-matched records in the NPCD outpatient file:

- Chicago HCS: 16.9%
- Hines, IL: 14.8%

Patterns of the non-matched records in the NDE Outpatient file

Among the 2,039 non-matched records in the NPCD Outpatient file, 96.4% had missing values in stop codes.

It appears that there are fewer NPCD records in the NDE Outpatient file than in the NPDC Outpatient file (SC file). One possible explanation is that the flag variable NPCD was created incorrectly, causing some NPCD records to be missed when the NPCD flag was used to match records.

Chapter Summary

Outpatient data in DSS was compared to data in NPCD for a sample of 21,054 individuals. Data in each source was modified so that they were comparable. Almost all records (96.4%) in the DSS NDE Outpatient extract were matched with the records in the NPCD SC file. However, 11.5% of the records in the NPCD SC file could not be matched with the DSS NDE extract. About half of the non-matched records were in six clinical stops and 30% of them were in two medical centers.

Appendix. DRAFT DSS Data Access Policy and Forms

DSS Access Policy Regulating DSS National Extracts

April 4, 2000

Background

A policy regulating access to DSS must balance the need for information with the need to protect the confidentiality of patient records and also facility financial information. Since VA is actively pursuing contracting with private sector health care firms, the policy must prohibit public disclosure of DSS information that could put VA at a disadvantage in contract negotiations. The policies outlined below deal with restrictions on the disclosure of DSS cost data contained in the DSS national extracts.

Policy on DSS Cost Disclosure

Individuals accessing DSS data are restricted from publishing or otherwise releasing *to the public* ('disclosing") DSS cost information at a level of detail that would compromise the ability of VA to negotiate contracts with private health care agencies. Restrictions on public disclosure do not apply to the internal dissemination of DSS cost data within the VA.

DSS cost data at the national level of aggregation may be disclosed. Disclosure of DSS cost data is permitted when the identity of the facility or network has been completely masked and cannot be deduced. It is only when the organizational entity is identified that these disclosure restrictions must be adhered to. The organizational entity is identified as a medical facility or regional cluster of medical facilities such as a VA Network (VISN).

If the organizational entity is identified, DSS specific cost data may not be disclosed at the patient cohort, clinical classification group (DRG, ACG, ICD-9-CM etc.), or DSS intermediate product level. This restriction includes total costs as well as average costs. Disclosure of facility specific DSS costs at the aggregated encounter level (e.g. inpatient, outpatient, major service or cost section) is permitted. The attached matrix of types of costs and VA organizational entities is provided as a guide (Table A1).

There are a limited number of situations where it may be reasonable to disclose detailed DSS data on the costs. Such disclosure shall be considered on a case-by-basis. The DSS user must obtain permission from the relevant authority to disclose such data. Ideally, such permission would be obtained before the study commences. The individual seeking to disclose DSS data should provide the relevant authority with a complete description of the facility level data to be disclosed, so that it may be determined that confidential business data will not be disclosed.

Under the VA's current organizational structure the relevant authority is a VISN level employee. This person should understand issues surrounding contract negotiations within the VISN. The relevant authority may request that data be reported at a more highly aggregated-level of detail to prevent disclosure of confidential business data.

The following guidance is provided for the relevant authority to consider in order to determine if the release of detailed cost data would have a substantive effect. Disclosure of the detailed costs of an organizational entity is only appropriate if (1) it involves reporting just the difference in cost incurred by two groups of patients, (e.g., the difference in the costs incurred by two groups of participants in a randomized trial); (2) the data are from a period of at least 3 fiscal years before the current year; (3) the cost estimate is based on charges adjusted by a cost-to-charge ratio; or (4) the data don't disclose the cost of health care products that are the subject of any current contract negotiation that is either underway or likely to be undertaken in the foreseeable future.

Policy on Gaining Access to the National DSS Extract

The extracted DSS data is a subset of the production DSS data. This national DSS reporting database summarizes DSS data at the level of the health care encounter. The extract includes records from all facilities in the VA. Access to this extract allows the user to view data from all VA facilities. The national DSS extract protects patient confidentiality by encrypting the Social Security Number. The Austin processing charges associated with analysis of the DSS extracted data will be billed to the user doing the analysis.

VA employees requesting access to the DSS extract must complete two VA forms: VA Timesharing Form 9957 and a DSS non-disclosure agreement (attached). Both forms must be completed before access is permitted. In addition, if access to real Social Security Numbers is desired, the request should specify whether access to real Social Security Numbers is required at the station, VISN, or national level. Access to real Social Security Number data requires that a privacy statement be signed (attached). The local security officer will supply forms and process them.

Non-VA users may obtain permission to use the national extract of DSS data for 30 days by submitting an application to the National DSS technical support staff in Bedford. Extensions of the privileges of non-VA users may be approved on a month-to-month basis.

Table A1. Disclosure of DSS Cost Data

By Type of Cost and VA Organizational Entity

Category	Corporate	VISN	Medical Center
Total, Direct, or Indirect Inpatient and Outpatient Costs	Yes	Yes	Yes
Total, Direct, or Indirect Inpatient Costs	Yes	Yes	Yes
Total, Direct, or Indirect Outpatient Costs	Yes	Yes	Yes
Average Cost per Inpatient Encounter	Yes	Yes	Yes
Average Cost per Outpatient Encounter	Yes	Yes	Yes
Total, Direct, Indirect or Average Cost of Acute Care	Yes	Yes	Yes
Total, Direct, Indirect or Average Costs of Long Term Care	Yes	Yes	Yes
Total, Direct, Indirect Costs of a Group of Encounters (Defined by APC, MDC, DRG, or ICD-9 Codes)	Yes	No	No
Average Cost per Case for a Group of Encounters (Defined by APC, MDC, DRG, or ICD-9 Codes)	Yes	No	No
Cost of Specific Procedure (CPT)	N/A	No	No
Cost of an Intermediate Product	N/A	No	No
Average Costs of a Patient Cohort	Yes	No	No
Total, Direct, or Indirect Costs of a Patient Cohort	Yes	No	No
Total, Direct, or Indirect Costs of a Service (eg: Medicine, Surgery, Ambulatory Care)	Yes	Yes	Yes
Total, Direct, or Indirect Costs of a Section (eg: Hematology)	Yes	Yes	Yes
Medicare Cost Report	N/A	Yes	Yes

AGREEMENT TO NOT DISCLOSE DSS DATA

Department of Veterans Affairs Decision Support System Cost Data

In order to ensure the confidentiality of the DSS cost data collected and maintained by the Department of Veterans Affairs, VHA expects the requestors and recipients of its data to agree to observe the following conditions and to comply with these requirements. These requirements apply to the use of all DSS file(s) or any data derived from such files(s).

The Requestor shall neither publish nor release to the public any cost information that is derived from the file(s) that identifies a specific facility or VISN and describes the cost of a specific patient cohort, clinical classification group (DRG, ACG, ICD-9-CM etc.), or DSS intermediate product. This restriction includes total costs as well as average costs. Exceptions allowing the disclosure of this facility level cost data may be granted on a case-by-case base by the facility or VISN director. These cost data may be distributed for internal VA use and management reporting.

Proper care should be exercised to prevent the unwanted disclosure of confidential cost data to potential private sector competitors. The requestor shall not disclose, release, reveal, show, sell, rent, lease, loan, or otherwise grant access to the DSS data covered by this Agreement. Appropriate administrative, technical, procedural, and physical safeguards shall be established by the Recipient to protect the confidentiality of the data and to prevent unauthorized access to it. In the event the Requestor makes an unauthorized disclosure of these data, VHA may revoke requestor's access to all VHA DSS data.

_____

(Requestor name and title--typed or printed – First and Last)

_____

(Company/Organization)

_____

(Street Address)

_____

(City, State and ZIP Code)

_____ / _____

(Phone Number--Including Area Code)

_____

(Signature) (Date)

VA Privacy Statement

I am aware of the regulations and facility automated information system (AIS) security policies designed to ensure the confidentiality of all sensitive information. I am aware that information about patients or employees is confidential and protected from unauthorized disclosure by law. Improper disclosure of information to anyone not authorized to receive it may result in criminal charges and a fine from $5,000 - $20,000 under the Privacy Act of 1974, 5 U.S.C. 552a, and 38 U.S.C. Sections 5701 (Confidential Nature of Claims) and 7332 (Confidentiality of Certain Medical Records). I understand that my obligation to protect VA information does not end with either the termination of my access to national databases or with the termination of my government employment.

_____

Requestor name and title--typed or printed – First and Last)

_____

(Company/Organization)

_____

(Street Address)

_____

(City, State and ZIP Code)

_____ / _____

(Phone Number--Including Area Code)

_____ _____

(Signature) (Date)

Department of Veterans Affairs

ACRS TIME SHARING REQUEST FORM

PRIVACY ACT STATEMENT: The information is solicited under authority of Title 38, United States Code and Executive Order 9397 and is necessary to accomplish the action requested by the requester, including establishing, modifying or deleting a Time Sharing Customer Account. Furnishing the information on this form, including your Social Security Number, is voluntary; however, if the information is not furnished, we will be unable to take further action on your request.

NOTE: *Information from this form is used to establish a Time-Sharing Account.*

1. ACTION REQUESTED (*Check only one of the three items*)

☐ CREATE NEW CUSTOMER ☐ MODIFY EXISTING CUSTOMER ☐ DELETE EXISTING CUSTOMER

2. CUSTOMER INFORMATION

A. NAME	B. TIME SHARING CUSTOMER ID	C. SOCIAL SECURITY NUMBER
D. TELEPHONE NUMBER (*Include Area Code*)	E. FACILITY (STATION) NUMBER/SUFFIX	F. MAIL ROUTING SYMBOL OR STOP CODE
G. JOB TITLE		H. SUBSYSTEM APPLICATION FUNCTION CODE (AFC)

I. IF FOR CONTRACTOR, OR IF TEMPORARY ACCESS, SHOW EXPIRATION DATE (*Month, day, year*)	J. EMPLOYER (*For Contractor or Other Government Organization*)

K. OFFICE ADDRESS (*Street, City, State, Zip Code, for Contractor or Other Government Organization*)

NOTE: *See reverse for instructions.*

3. FUNCTIONAL TASKS

CHECK APPROPRIATE BOX		FUNCTIONAL TASK CODES	CONCURRING SYSTEM MANAGER OF RECORD (SMR) DESIGNEE SIGNATURE & TITLE (If required)
ADD	DELETE		
☐	☐		
☐	☐		
☐	☐		
☐	☐		
☐	☐		
☐	☐		
☐	☐		
☐	☐		
☐	☐		
☐	☐		

4. SIGNATURES

REQUESTING OFFICIAL & TITLE	DATE
APPROVING OFFICIAL & TITLE	DATE
SECOND APPROVING OFFICIAL & TITLE (*If required*)	DATE
FACILITY POINT OF CONTACT	DATE

VA FORM JUL 1997(R) **9957**